Digital Switching Systems
DMS*-100 Family

SuperNode* conversion procedures

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Revision history

June 1989	*Preliminary* issue released for the review process.
July 1989	Issue 01.01 released. This issue makes all previous issues obsolete.
March 1990	*Preliminary* 01.02 released for the review process.
September 1990	Issue 01.02 released. This release makes all previous releases obsolete.
March 1991	Issue 01.03 released. This release makes all previous releases obsolete.
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Issue control

The issue control for the *SuperNode conversion procedures* document will be by way of a release number. The release number appears on the footer of each page throughout the document.

Abstract

This document provides information necessary to perform software and hardware modifications on the DMS-100 Family switch which are required in order to implement the NT40 to SuperNode conversion.

These sections are subject to change throughout the conversion process; therefore, subsequent issues of the *SuperNode conversion procedures* will be reissued as development progresses.

Contents

About this document

Chapter contents

Introduction

The issue control for the *SuperNode conversion procedures* will be via an issue number. The issue number will appear on the footer of each page throughout the document. Hopefully, this will simplify reference to the document. The conversion document will start from *Issue 01.01* and increment accordingly.

Site refers to the Telco or Carrier company which is to converting the NT40 to the SuperNode.

Organization

The information in this section is organized in the following manner and should be read and adhered to upon receiving this document.

The *Site preparation overview* section is a time-line that describes the various activities necessary to prepare and convert the NT40 to the SuperNode. This section also provides site responsibilities.

The *Method of procedure* section provides information related to the procedures and all procedures necessary to prepare and perform a SuperNode conversion.

The *Post-BCS test scripts* section provides a test plan for the verification of the software release. The test plan requires the site to datafill and test the applicable test call types.

Warnings

It is imperative that the administrative functions outlined in the *Site preparation overview* section and *Journal file rules* procedure in the *Method of procedure* section are reviewed by the site immediately upon receipt of this document.

Personnel responsible for performing any of the steps in this MOP must be thoroughly familiar with the complete procedure before starting it .

Journal file mishaps are major contributors to aborts and reschedules. Personnel must follow *NT40 office image capture* and *Journal file rules* procedures outlined in the *Method of procedure* section.

Hardware problems are contributors to conversion aborts and reschedules; therefore, particular attention should be made to testing all memory cards and to monitor CM, MM, and MS logs prior to the SuperNode conversion.

It is recommended that the site personnel responsible for assisting Northern Telecom in the actual process review all sections of this document to ensure designated activities are completed prior to or during the SuperNode conversion process.

RTP dump and restore method

RTP dump and restore refers to performing the dump and restore on a Northern Telecom captive office. This process requires the site to verify and correct data inconsistencies prior to dumping the *Frozen images* and send Northern Telecom two NT40 office images approximately two weeks prior to the scheduled SuperNode in-service date.

Northern Telecom's software production team will create a SuperNode datafilled BCS load using the site's NT40 office image and the SuperNode base software load ordered.

Typically, Northern Telecom releases the SuperNode load to the site within one week prior to the scheduled SuperNode in-service date.

Site preparation overview

Chapter contents

Time-line of events

The following information provides the site with a summary of activities which will be performed prior to the SuperNode conversion. Personnel involved in the preparation, or the conversion process, or both, must be thoroughly familiar with this section.

Site must be familiar with this section and the *DATA SCHEMA CHANGES* of the *BATCH CHANGE SUPPLEMENT (BCS) RELEASE DOCUMENT*.

Northern Telecom recommends that the conversion take place during low traffic periods to minimize the impact on the office.

Administrative functions which need to occur

Advanced notification of the conversion to SuperNode must be provided by the site to operator services, service control centers, repair bureau, and other special services.

Advise the regional coordinator for data transferral (or equivalent) when the conversion to SuperNode will occur.

The central office foreman will determine if an Operational Measurements (OM) tape is to be shipped and will make the necessary arrangements with the appropriate department.

Offices equipped with Centralized Automatic Message Accounting (CAMA) or Local Automatic Message Accounting (LAMA) will arrange for the validation of an Automatic Message Accounting (AMA) test tape with the site billing center. The site billing center must be informed of this requirement four weeks prior to the SuperNode conversion. This test will be performed during post conversion activities. Ensure that the AMADUMP User's Guide (NTP 297-1001-119N) is made available.

Offices with Distributed Processing Peripheral (DPP) actively collecting AMA will need to verify all DPP links, since Input and Output Controller (IOC) 1 and higher will be switched over to the SuperNode during *Switch IOCs to SuperNode* procedure.

30 to 35 days prior to the conversion

The site shall receive the first shipment of the following tapes and documents. (Review all documents.)

- SuperNode conversion procedures (NTP 297-1001-302)
- BCS Release Document
- Peripheral Software Release Document
- Preliminary D190 document (office feature record)
- Two Regular PM load tapes
- Two Scratch tapes
- Two NT40 BCSTOOLS tapes
- Two SuperNode BCSTOOLS tapes
- If applicable, two XPM load tapes
- If applicable, one XPM patch tape

Verify a magnetic tape drive (MTD) will be available on IOC 0 for file transfer (i.e. DIRPAUTO or DIRPCOPY) to be performed after IOC 1 is switched over to the SuperNode. Depending on the office configuration, a physical card and cable move may have to be done.

Load all peripheral modules according to the *PERIPHERAL SOFTWARE RELEASE DOCUMENT*, including the DPPs and the Multi-Protocol Controllers (MPCs). Each Extended Multiprocessor System Based Peripheral Module (XPM) must be patched at this time. Utilize the cross-reference file at the beginning of the XPM patch tape to determine the patches applicable to each XPM load. This file is referenced as BCS<**xx**>XPM$XREF (**xx** is the BCS number).

Note: Do not load the DPP if DEFERAMA can not be turned off. It will have to be loaded on the conversion night.

Verify all table data using *Data consistency check* procedure.

Datafill and test the *Post-BCS test scripts*, *Appendix B*, for a complete and thorough test plan exercise after the conversion to SuperNode.

14 days prior to the conversion

Twenty-four hours prior to completing *NT40 office image capture* procedure, verify all table data using *Data consistency check* procedure. Nothern Telecom customer service representative will inform the site when to dump the *Frozen image*.

The site is required to dump three NT40 images to tape, two for NTI and one for the site (reference *NT40 office image capture* procedure, step 2). Included with the image tapes, the site will provide Northern Telecom with the name and phone number of their translation engineer.

Note: Use the blue and white label provided when shipping the office images to Morrisville for an RTP dump and restore.

Send the package to the appropriate Northern Telecom location listed later in this section. If an EMERY package, forward the shipping information to your Northern Telecom regional customer service representative for tracking purposes.

10 days prior to the conversion

The site is requested to:

- Monitor SuperNode CM, MM, and MS logs through the conversion day.
- Test all memory cards in the SuperNode for unstable or bad cards.
- READ ACTTO (reference *Site responsibilities on the conversion day*) which prints out selected tables. The site may want to dump other tables that ACTTO does not dump out. This printout should be kept for the site's future reference.
- Copy all NT40 and SuperNode Store File Device (SFDEV) files to tape including all patches to the patch tape provided.

Note: Be sure the user's stack size is at least 5000.

7 days prior to the conversion

The site shall receive the final shipment of tapes and documents. (Review all documents.)

- D190 document (office feature record)
- Data report
- Two TAS Non-Res tapes
- Two Super Non-Res tapes
- Two Commissioning tapes
- Two SuperNode BCS<**xx**>RTM image tapes
- One patch tape

Note 1: Booting is prohibited unless all SuperNode patches are copied to the patch tape.

Note 2: Do not erase any SuperNode SFDEV files, they will be needed for the conversion.

Site and installation boot the SuperNode with the new datafilled SuperNode image (reference *SuperNode booting* procedure).

Site personnel are requested to cross-reference current load status with the D190 document to ensure software content meets the expected requirements.

The site will be contacted by a Northern Telecom precheck scheduler to set up the precheck date and time (the precheck details are contained in *5 days prior to the conversion* procedure).

3 to 5 days prior to the conversion

The site will be contacted by a Northern Telecom representative from the BCS SuperNode Preapplication group to verify or perform the following:

- Verify the SuperNode CM complex stability. Northern Telecom recommends that logs are sent to tape for 24 hours and are retained on-site for two weeks.
- Verify all peripheral modules are loaded, patched, and working according to the *PERIPHERAL SOFTWARE RELEASE DOCUMENT*.
- Verify at least one dial-up port to the NT40 and SuperNode is operational on IOC 0.
- Load modules and copy store file execs which are required for the SuperNode conversion.

- Verify that the site has copied all SFDEV files to tape (including all patches to the patch tape provided).
- Ensure that all tapes are on site.
- Verify that the site is familiar with the *SuperNode conversion procedures*.
- Verify that the site has completed a dry run on all test calls using the *Post-BCS test procedure*.
- The name of a site representative with authority to continue in case of a possible ABORT.
- Verify all patches will be down-loaded from the patch department.
- The applicator contacts the site on an FX voice line at the prearranged time, and establishes FX data links into the switch, one on the NT40 IOC 0, one on the NT40 IOC 1, and two on the SuperNode Commissioning Input and Output Controller (CIOC). (Direct connection modems are optimum.)

Conversion phase

The applicator dumps out critical NT40 table information and hardware status using ACTTO, or a variation.

The applicator logs into the SuperNode and dumps out critical table information and hardware status of the SuperNode load using ACTTO, or a variation.

The applicator verifies required software modules are loaded, all patches required for the SuperNode exist in SFDEV, and the patches are copied to tape.

The applicator compares the current NT40 load data with the SuperNode load data. The applicator and site personnel resolve all discrepancies.

The applicator checks and updates required patches for the SuperNode load and reviews software packages.

The applicator restores customer calling features (tables CFW, CFX, RCFCLI, SCALLTAB, IBNSC, and ACSCALL) to the new load, if applicable.

The applicator prepares AMA to ensure no billing will be lost (i.e. sets tuple SWACT_AMA_PREBILLING to 'Y' and turns off DEFERAMA).

The applicator, with site personnel and installation, switches all IOCs greater than zero to SuperNode and configures all Device Independent Recording Package (DIRP) subsystems (AMA, JF, OM, SMDR, etc.).

The applicator, with site personnel and installation, converts the NT40 to the SuperNode (reference *Convert to SuperNode* procedure). (Note: Calls to be tested after the conversion must be verified before the conversion by the site on the NT40.)

The applicator manually recovers any out-of-service Peripheral Modules (PMs) or trunks that did not recover.

Site personnel check for dial tone on all line modules and executes the pretested procedure of all applicable call types (reference *Post-BCS test procedure*). The applicator and site personnel work together to resolve any problems.

The site performs AMA verification, if LAMA or CAMA features exist.

Once the applicator and site personnel agree that the load is performing satisfactorily, IOC 0 is switched over to SuperNode, DIRP standby devices are mounted, and office images are taken.

Monitor phase

Logs are monitored until noon (site time) the day the conversion occurs. If no problems exist, the office is released from the BCS process.

Major phases

The times listed below (site time) reflect the two major phases required to convert the NT40 to SuperNode. The site must be available to assist the Northern Telecom applicator as follows:

- Eight hours prior to SuperNode conversion time to 0800 the following day
- 0800 to 1200 noon the day after the conversion (monitor time)

Return tapes

The site is to return the following tapes (if applicable) to Northern Telecom (reference *Site preparation* section, *Northern Telecom locations*).

- Two previous BCS Regular Peripheral load tapes
- If applicable, two previous BCS New Peripheral load tapes
- Two NT40 TAS Non-Res tapes
- Two NT40 Commissioning tapes
- Two NT40 BCSTOOLS tapes
- Two SuperNode BCSTOOLS tapes
- Two NT40 Super Non-Res tapes

Northern Telecom locations

The site is to route all conversion communiques and tapes to the applicable Northern Telecom office listed below:

- NORTHERN TELECOM
  (Northern Telecom, Incorporated)
  c/o Dump and Restore
  Dept: 3390
  100 Perimeter Park
  Morrisville, North Carolina
  U.S.A
  27560
- NORTHERN TELECOM
  (Northern Telecom, Incorporated)
  CNS Division
  Dept: 5372
  1201 East Arapaho Road
  Richardson, Tx.
  75081
- NORTHERN TELECOM
  (Northern Telecom, Incorporated)
  IOS Division
  Dept: 0814
  2150 Lakeside Boulevard
  Richardson, Tx.
  75081
- NORTHERN TELECOM
  (Northern Telecom Canada Limited)
  S/W Update Verification
  Dept: S645/7M24
  1285 Baseline Road
  Ottawa, Ontario
  Canada
  K2C 0A7
- NORTHERN TELECOM
  (Northern Telecom Canada Limited)
  S/W Production
  Dept: S644
  8200 Dixie Road
  Bramalea, Ontario
  Canada
  L6V 2M6

- NORTHERN TELECOM
  (BNR Limited)
  S/W Production
  Dept: N710
  Langton House
  Market Street
  Maidenhead
  Berkshire SL6 8BE
  U.K.

Site responsibilities

- Verifies the Journal File Logbook is kept up to date and all personnel follows the *Journal file rules* procedure for data modifications during the *Frozen image* period (also known as the *Data freeze* period). The *Data freeze* period is the time between the *Frozen image* dump and the conversion to SuperNode occurs.
- Verifies that the SuperNode has been in sync for the last twenty-four hours and the last REXTEST passed before allowing a SuperNode conversion to occur.
- Completes *Data consistency check*, *NT40 office image capture*, *Journal file rules*, and *Site responsibilities prior to the precheck day* procedures of the *Method of procedure* section prior to the start of the second precheck.
- Completes *Site responsibilities on the conversion day* procedure prior to the start of the SuperNode conversion process.
- Reassigns all current PROFILE information (LOGIN or RESTART) in SFDEV to the SuperNode users.
- Reassigns any temporary routing set-up via LOGUTIL to the SuperNode load, since permanent LOGUTIL report routing is provided by tables LOGCLASS and LOGDEV.
- Reassigns any changes in the INTEG level of the MAP (e.g. UPTH, BUFFSEL, and others) to SuperNode load.
- Ensures continuous communication during the conversion process.
- Verifies correctness of the the office feature record D190 document. (Included in the first and final shipment of tapes and documentation.)
- Keeps a record of all MB, RES, and INB equipment.
- IF equipped with MPC boards and package NTX273AA, has the MPC peripheral load on standby during the conversion. Standby means the download file datafilled in table MPC (field DLDFILE) is on an active disk drive, in SFDEV, or on a mounted tape drive.
- In offices equipped with TOPS O.C. (NTX288 or NTX289), ensures the host office (feature package NTX288) must be upgraded prior to the remote office (feature package NTX289).
- Datafill the BCS verification testing procedures in FOLLOWUP: BCS application and record the results.

Abort considerations

- If *Revert to NT40* procedure is encountered due to time constraints or where the cause has been determined:
  - A possible reschedule for the next day will be negotiated.
  - *Journal file rules* procedure must be followed until the rescheduled date.
  - Safely store the SuperNode datafilled, most current, or both images away.
- If *Revert to NT40* procedure is encountered where the problem has not been identified, then rescheduling must be negotiated.

Method of procedure

Chapter contents

Procedures

Introduction

Since specific policies may exist within various site locations, an estimated time of conversion should be established between the site and the applicator.

The columns used within the *Method of procedure* section are identified as follows:

- *Step* is the MOP step.
- *Node* :
  - *NT40* is the NT40.
  - *S-N* is the SuperNode.
  - *BOTH* are both the NT40 and the SuperNode.
  - *MSBX* is the master switchbox.
  - *RSBX* is the remote switchbox.
- *Action* is either a DMS command, a substep, or other valuable information.
- *Resp* is the responsibility:
  - *SITE* is the site.
  - *APP* is the applicator.
  - *INST* is installation.
  - *BOTH* are both the site and applicator.
  - *ALL* are the site, installation, and applicator.

Notations

The following notations will be used throughout the *Method of procedure*:

- '>' (greater than symbol) simulates the command line on both the NT40 and SuperNode.
- 'RTIF>' simulates the command line on the SuperNode RTIF.
- '<**xx**>' simulates the BCS number of the NT40 load.
- '<**yy**>' simulates the BCS number of the SuperNode load.
- '<**Tx**>' and '<**x**>' is used as the abbreviation for a magnetic tape drive number.
- '<**parameter**>' is used when some variable data needs to be input.
- '<**cr**>' is used for a carriage return or enter key.

Site preparation procedures

The first five procedures are the site preparation procedures. These procedures start prior to the NT40 office image capture and continue through the conversion day:

- *Data consistency check* procedure contains the steps necessary to ensure table data is not corrupted.
- *NT40 image capture* procedure contains the steps necessary to ensure table data is not corrupted, to capture an NT40 frozen office image, and to start journal file manually or automatically with JFFREEZE.
- *Journal file rules* procedure contains the journal file rules which must be followed from the *Frozen image* dump through the conversion in order for an issue free conversion to take place.
- *Site responsibilities prior to the precheck day* procedure contains the steps to copy site store files and configuring the disks containing PM load files prior to the precheck date.
- *Site responsibilities on the conversion day* procedure contains the steps necessary to create a backup image and to dump pertinent office information using the ACTTO exec on the day of conversion. This procedure must be completed prior to the applicator contacting the site.

Warnings

For all emergency situations (loss of dial tone, AMA problems, or other emergencies) occurring at any step of this *Method of procedure* section, except for *Convert to SuperNode* and some of *Post conversion* procedures, normal site emergency procedures are to be followed.

Journal file operations must be treated with great caution during the *Data freeze* period. Personnel responsible for these preparations must be familiar with all of the procedures. Failure to perform *NT40 office image capture* and *Journal file rules* procedures may result in a reschedule, switch degradation, or outage.

The *Journal file rules* procedure must be adhered to from the day of the NT40 office image capture until the actual conversion to the SuperNode.

Note

All user names will be restored, but the passwords will change accordingly:

- User ADMIN is ADMIN.
- User OPERATOR is OPERATOR.
- All other users will be XXXXXXXX (eight Xs).

Procedure 1
Data consistency check

Step	Node	Action	Resp
1	NT40	Execute TABCHK. 1 >LOGUTIL;STOPDEV <**printer**>;QUIT ***Note:*** **printer** refers to the available printer to be used. This makes sure the logs are stopped on the device. 2 >RECORD START ONTO <**printer**> 3 >TABCHK 4 >RECORD STOP ONTO <**printer**> 5 Check the printout for failure messages; otherwise, go to *NT40 office image capture* procedure (if time to dump the *Frozen image*). ***Note:*** If 'NO TOP OR BOTTOM - PROBABLY EMPTY' or 'COUNT DOES NOT MATCH NUMBER OF USED TUPLES' is output, verify the count. >TABLE <**table**> {**table** refers to the table name} >SUB <**subtable**> {**subtable** refers to the subtable name, if applicable} >COUNT >INF >QUIT 6 Correct the corrupt data. ***Note:*** If the site is unable to resolve the data corruption, follow normal escalation procedures. 7 >TABCHK ONLY <**failed_table**> ***Note:*** **failed_table** refers to the table identified in substep 5. 8 Repeat substeps 6 and 7 for each error identified in substep 5.	SITE

Procedure 2
Journal file rules

Step	Node	Action	Resp
1	NT40	*Frozen image* rules. ***Note 1:*** During the *Data freeze*, table changes are to be limited. ***Note 2:*** Journal file is never to be stopped, even during journal file rotates. **A** ACTIVITIES WHICH **ARE** PERMITTED • all SERVORD commands • table changes must be made with VERIFY ON and kept on hard copy • emergency translation changes **B** ACTIVITIES WHICH **ARE NOT** PERMITTED • network changes, additions, and deletions (i.e. tables NETWORK and NETJUNCT) • PM changes, additions, and deletions (i.e. all tables ending with 'INV') • trunk group changes, additions, and deletions (i.e. tables TRKGRP and TRKSGRP) • trunk member changes, additions, and deletions (i.e. table TRKMEM) • table TRKNAME changes, additions, and deletions. • IBN customer group and member additions and deletions • table changes, additions, and deletions from store files, and with OVERRIDE (OVE) and VERIFY OFF (VER OFF) • changes to "restricted tables" (including tables C7LKSET, C7RTESET, and C7LINKSET • use of the RENAMECLLI command • OM and EADAS changes, additions, and deletions (i.e. OMACCTAB, OMCLASS, OMACCGRP, OMACCFLD, OMACCKEY, OMDELTA, and OMSET) • DRAMREC changes, additions, and deletions (i.e. ASSIGN and RECORD) • use of the DMOPRO command • use of the JF STOP command	SITE
2	NT40	Rotate journal files daily and keep the filenames in chronological order in the site Journal File Logbook. Daily rotates are not necessary until the number of records reaches 1000.	SITE

Procedure 3
JFFREEZE Availabilty

Step	Node	Action	Resp
1	NT40	Determine if JFFREEZE is available (retain for rest of this step). 1 >HELP JFFREEZE 2 If JFFREEZE is available, the command syntax will be output; otherwise, NO COMMAND IN LINE is output (JFFREEEZE is not available).	SITE
2	NT40	A If JFFREEZE is not available, go to Procedure 3A, Office image capture (No JFFREEZE). B If JFFREEZE is available and disk drives are equipped in the office, go to Procedure 3B, Office image capture (JFFREEZE).	

Procedure 3A
NT40 Office image capture (No JFFREEZE)

Step	Node	Action	Resp
1	NT40	Verify *Data consistency check* procedure has been performed within the past twenty-four hours.	SITE
2	NT40	Advise all personnel that no changes are to be performed until confirmed otherwise.	SITE
3	NT40	`>JF STOP`	SITE
4	NT40	Ensure logs are not sent to to the MAP terminal. `>LOGUTIL;STOPDEV MAP;QUIT`	SITE

5	NT40	Verify OPERATOR is correctly permitted:
		1 `>SHOW USERS` {retain for step 11}
		`NAME PRIO STACK NRDEV LANGUAGE PRIV`
		`OPERATOR 4 5000 ENGLISH ALL`
		2 If OPERATOR is not permitted as stated above, change with the '`PERMIT`' command.
		Note: If OPERATOR is logged in, logout the user, use the '`PERMIT`' command from another user, and login OPERATOR.
			SITE

6	NT40	Verify MAP datafill in table TERMDEV: 1 `>TABLE TERMDEV;POS MAP` {retain for step 11} `MAP` **`0 8 VT100 B1200 CL`** `1X67BC NONE N NONE` **`ALL`** or `MAP` **`0 20`** `VT100` **`B1200 CL`** `1X67BC NONE N NONE` **`ALL`**	SITE

- Procedure continued -

Procedure 3A (Continued)
NT40 Office image capture (No JFFREEZE)

Step	Node	Action	Resp
		2 Change all fields which do not match. The **BOLD** type (fields IOCNO, CKTNO, BAUDRT, and INTYP) is a must, ignore all other fields.	
		Warning: Do not '<**break**>-STOP', 'HX', or 'HXX', this action will cause the changes to take effect.	
		3 `>QUIT`	
7	NT40	If the office has TOPS and is not in a rate change, verify MASSTC is set correctly.	SITE
		1 `>MASSTC`	

		`FOR DOCUMENTATION, ENTER   HELP`
		`INITIAL STATE`
		`NO INACTIVE DATA`	

		2 If the **BOLD** type is not '`INITIAL STATE`' and a rate change will not be occurring, put to initial with '`SCRAP`' command; otherwise, inform dump and restore via memorandum.	
		3 `>QUIT`	
8	NT40	Verify the MAP is in-service.	SITE
		1 `>MAPCI;MTC;IOD;IOC 0` 2 `>CARD 2`	
		or	
		2 `>CARD 5`	
		3 Verify port 0 is in-service: a dot represents in-service. If not, use '`BSY 0;RTS 0`'.	
		4 `>QUIT ALL`	
9	NT40	Journal file preparation and dump images	SITE
		A 1 `>DUMP DR_IMG_`<**mmmdd**>`_`<**hhmm**> <**Tx**> `ACTIVE` <**option**> ***Note:*** **mmmdd** refers to the month and day, **hhmm** refers to the time based on a twenty-four hour clock (e.g. IMG_JUL10_1450), and **option** refers to '`UPDATE`' for normal image load route; otherwise, use '`RETAIN`'. 2 Repeat substep 1 until three images are complete.	
		3 `>MAPCI;MTC;IOD;DIRP` 4 `>DMNT JF` <**Tx**> 5 `>YES` {for confirmation}	
		6 Install a new journal file tape. If possible, use a new tape, not the end of an office image.	
		7 `>MNT JF` <**Tx**> 8 `>QUIT MAPCI` 9 `>JFSTART` 10 Go to step 10 to complete this procedure.	

- Procedure continued -

WARNING

If site is taking its own image, close and rotate active journal file.
Table DIRPSSYS must be as follows:

`>TABLE DIRPSSYS: POS JF`

`JF Y 2 1 JFPOOL $ CR MJ NA NA 30 30 TAPE $` **`FIRSTACT YYYYYYY 3 X24 BOTH NONE`**

Procedure 3A (Continued)
NT40 Office image capture (No JFFREEZE)

Step	Node	Action			Resp
9 cont	NT40	**B**	1	>DUMP <**filename**> <**disk**> ACTIVE <**option**>	SITE
		C	1	>DUMP <**filename**> <**disk**> ACTIVE <**option**>	
				Note 1: **filename** refers to the normal image name, **disk** refers to the normal image disk volume, and **option** refers to '`UPDATE`' for normal image load route; otherwise, use '`RETAIN`'.	
				Note 2: Verify the disk has enough space for another image (erase the oldest image if necessary).	
			2	Go to substep D to copy the image to three tapes.	
		D		Copy the disk image to three tapes.	SITE
			1	Advise change order personnel that service order activity may resume by following *Journal file rules* procedure.	
			2	Install a blank tape on an MTD.	
			3	`>MOUNT <`**`x`**`> FORMAT IMAGE`	
			4	`>COPY <`**`filename`**`> IMG_<`**`mmmdd`**`>_<`**`hhmm`**`> <`**`Tx`**`>`	
			5	`>TAPE <`**`x`**`> REW`	
			6	`>LIST <`**`Tx`**`>`	
			7	`>DEMOUNT <`**`Tx`**`>`	
				Note 1: **filename** refers to the filename used in substep 1, **mmmdd** refers to the month and day, and **hhmm** refers to the time based on the twenty-four hour clock (e.g. `IMG_JUL10_1450`).	
				Note 2: Verify the message '`Device error`' does not appear during substeps 4 and 6. If the message appears, either the copy or the tape is bad.	
			8	Repeat substeps 2 thru 7 until three image copies are complete.	
		E		Copy journal files to tape and erase them from disk.	
			1	`>MAPCI;MTC;IOD;DIRP;QUERY JF`	
				Note: Retain the volume names located under the VOLUME field for substeps 4 and 8.	

- Procedure continued -

Procedure 3A (Continued)
NT40 Office image capture (No JFFREEZE)

Step	Node	Action	Resp
10	NT40	Advise change order personnel that service order activity may resume by following *Journal file rules* procedure.	SITE
11	NT40	Return user OPERATOR and the MAP to the original state (if changed in step 5 or 6). ***Note:*** If user OPERATOR was changed in step 5, logout the user, use the `PERMIT` command from another user, and login OPERATOR.	SITE
12	NT40	Send two images to the appropriate Northern Telecom facility (refer to *Site preparation overview*, *Northern Telecom locations*). Safely store one image for the office.	SITE

- Go to Procedure 4-

Procedure 3B
Office image capture (JFFREEZE)

Step	Node	Action	Resp
1	NT40	Verify *Data consistency check* procedure has been performed within the past twenty-four hours.	SITE
2	NT40	Advise all personnel that no changes are to be performed until confirmed otherwise.	SITE
3	NT40	`>JF STOP`	SITE
4	NT40	Ensure logs are not sent to to the MAP terminal. `>LOGUTIL;STOPDEV MAP;QUIT`	SITE

5	NT40	Verify OPERATOR is correctly permitted:
		1 `>SHOW USERS` {retain for step 11}
		`NAME PRIO STACK NRDEV LANGUAGE PRIV`
		`OPERATOR 4 5000 ENGLISH ALL`
		2 If OPERATOR is not permitted as stated above, change with the '`PERMIT`' command.
		Note: If OPERATOR is logged in, logout the user, use the '`PERMIT`' command from another user, and login OPERATOR.
			SITE

6	NT40	Verify MAP datafill in table TERMDEV: 1 `>TABLE TERMDEV;POS MAP` {retain for step 11} `MAP` **`0 8 VT100 B1200 CL`** `1X67BC NONE N NONE` **`ALL`** or `MAP` **`0 20`** `VT100` **`B1200 CL`** `1X67BC NONE N NONE` **`ALL`** 2 Change all fields which do not match. The **BOLD** type (fields IOCNO, CKTNO, BAUDRT, and INTYP) is a must, ignore all other fields. ***Warning:*** Do not '<**break**>-STOP', 'HX', or 'HXX', this action will cause the changes to take effect. 3 `>QUIT`	SITE

7	NT40	If the office has TOPS and is not in a rate change, verify MASSTC is set correctly.
		1 `>MASSTC`
		`FOR DOCUMENTATION, ENTER HELP`
		`INITIAL STATE`
		`NO INACTIVE DATA`
		2 If the **BOLD** type is not '`INITIAL STATE`' and a rate change will not be occurring, put to initial with '`SCRAP`' command; otherwise, inform dump and restore via memorandum.
		3 `>QUIT`
			SITE

- Procedure continued -

Procedure 3B (Continued)
Office image capture (JFFREEZE)

Step	Node	Action	Resp
8	NT40	Verify the MAP is in-service. 1 `>MAPCI;MTC;IOD;IOC 0` 2 `>CARD 2` or 2 `>CARD 5` 3 Verify port 0 is in-service: a dot represents in-service. If not, use '`BSY 0;RTS 0`'. 4 `>QUIT ALL`	SITE
9	NT40	Verify tuple JF datafill in table DIRPSSYS: 1 `>TABLE DIRPSSYS;POS JF` `JF Y 2 1 JFPOOL $ CR MJ NA NA` **`30 30`** `TAPE $` **`FIRSTACT`** <u>`NNNNNNN`</u> `0 NOROTATE` **`BOTH NONE`** 2 Change all fields which do not match. The **BOLD** type (fields RETPD, CRETPD, FILEDATE, ROTACLOS, and AUTOXFER) is a must, ignore all other fields. If JFFREEZE is available, verify <u>underlined</u> type (field SHEDDAYS) is '`NNNNNNN`'. (JFFREEZE automatically rotates journal file at approximately 0300 hours.) ***Note:*** Retain the original datafill to restore to the SuperNode before the images are dumped in *Post conversion* procedure. 3 `>QUIT`	SITE
10		Copy journal files to tape and erase them from disk. 1 `>MAPCI;MTC;IOD;DIRP;QUERY JF` ***Note:*** Retain the volume names located under the VOLUME field for substeps 4 and 8. 2 `>QUIT MAPCI` 3 `>DSKUT` 4 `>LISTVOL <`**`volume`**`> ALL` ***Note:*** **volume** refers to the VOLUME(s) found in substep 1. Retain all filenames for substep 6. 5 Repeat substep 4 for each volume found in substep 1 6 `>DIRPCOPY <`**`unprocessed files`**`>` or 6 `>DIRPAUTO <`**`unprocessed files`**`>` ***Note 1:*** **unprocessed files** refers to the files listed in substep 4. The filenames start with the letter '`U`' (e.g. `U890327133614JF`).	SITE

- Procedure continued -

Procedure 3B (Continued)
NT40 Office image capture (JFFREEZE)

Step	Node	Action	Resp
		Note 2: If the site does not require copying unprocessed journal files, go to substep 10; otherwise, continue. 7 Repeat substep 6 for each unprocessed journal file. 8 `>LISTVOL <`**`volume`**`> ALL` ***Note:*** volume refers to the journal file volume(s) noted in substep 1. Retain all filenames for substep 10. 9 Repeat substep 8 for each volume found in substep 1. 10 `>PRIVERAS <`**`filename`**`>` {BCS24 and higher} or 10 `>ERASEFL <`**`filename`**`>` {BCS23 and lower} ***Note 1:*** PRIVERAS may have to be loaded from the NT40 TAS NONRES tape. Consult the Nothern Telecom regional customer service support representative. ***Note 2:*** **filename** is all files except DIRP_FILESEG and active files. Active files start with the letter `'A' (e.g. A890327133614JF)`. 11 Repeat substep 10 for each filename found in substep 4 or 8. 12 Go to step 11 to restore the MAP position datafill and send the tapes to the appropriate Northern Telecom location.	

11		Execute JFFREEZE. For a complete session of JFFREEZE, see *Using JFFREEZE, Appendix A*.
		Note: Verify the disc has enough space for another image (erase an old image if necessary).
		1 `>JFFREEZE ON`
		`DO YOU WISH TO CONTINUE?`
		`Please confirm ("YES" or "NO"):`
		2 `>YES`
		`ENTER THE FREE IOC OR SLM DISK VOLUME TO RECEIVE THE SYSTEM IMAGE FILES(S):`
		3 `><`**`disk`**`>` {**disk** refers to the normal image disk}
		`JFFREEZE: THE SYSTEM...COMMENCE IN 2 MINUTES`
		`DO YOU WISH TO PROCEED?`
		`Please confirm ("YES" or "NO"):`
			SITE

- Procedure continued -

> **WARNING**
> If site is taking its own image, close and rotate active journal file.
> Table DIRPSSYS must be as follows:
> `>TABLE DIRPSSYS: POS JF`
> `JF Y 2 1 JFPOOL $ CR MJ NA NA 30 30 TAPE $` **`FIRSTACT YYYYYYY 3 X24 BOTH NONE`**

Procedure 3B (Continued)
NT40 Office image capture (JFFREEZE)

Step	Node	Action	Resp

		4 `>YES`
		`JFFREEZE image dump commences in 2 minutes...`
		`Dump START time: yyyy/dd/mm hh:mm:ss.sss ddd..`
		JFFREEZE image dump information is output.
		Journal file information is output.	

12		Copy the image to three tapes: 1 List the disk volume with the frozen image (above). Retain the filenames for substep 4 below. 2 Install a blank tape on an MTD. 3 >`MOUNT` <**x**> `FORMAT FROZEN` 4 >`COPY` <**filename**> `DR_IMG_`<**yymmdd**> <**Tx**> 5 >`TAPE` <**x**> `REW` 6 >`LIST` <**Tx**> 7 >`DEMOUNT` ***Note 1*:** **filename** refers to the filename used in substep 1, and **yymmdd** refers to the month and day (e.g. DR_`IMG`_890908). ***Note 2*:** Verify the message '`Device error`' does not appear during steps 3 and 5. If such a message appears, the copy or the tape is bad. 8 Repeat substeps 2 thru 7 until three image copies are made.	SITE
13		Advise change order personnel that service order activity may resume only by following *Journal file rules* procedure (below).	SITE
14		Return user OPERATOR and the MAP to the original state (if changed in step 5 or 6). ***Note*:** If user OPERATOR was changed in step, logout the user, use the `PERMIT` command from another user, and login OPERATOR.	SITE
15		Send two images to the appropriate Nothern Telecom facility (refer to *Site preparation overview, Northern Telecom locations*). Safely store one image at the DMS site.	SITE

Procedure 4
Site responsibilities prior to the precheck day

Step	Node	Action	Resp
		Note: The following steps must be completed prior to the precheck date.	
1	BOTH	Copy all needed SFDEV files one at a time from SFDEV onto a labelled, clean scratch tape; then erase them from SFDEV.	SITE
2	BOTH	Copy all patches to the appropriate patch tape; then erase them from SFDEV.	SITE
3	NT40	If the office is equipped with DDUs, erase all unwanted files and then ensure the latest PM loads (Regular and XPM) patches are on all PM load disks, if applicable. (Assure all XPM patches that are currently applied reside on the DDU on IOC 1.)	SITE

Procedure 5
Site responsibilities on the conversion day

Step	Node	Action	Resp
		Note: Steps 1 and 2 must be completed prior to the applicator contacting the site.	
1	NT40	Dump office images for backup, one NT40 to tape and one SuperNode to tape or SLM disk and backup the file to SLM tape	SITE

2	NT40	ACTTO is an SFDEV exec which dumps current NT40 office information. information. It has a options (illustrated on the next pages) which need to be satisfied by the person reading the file. It verifies that certain modules are loaded (some modules will not be loaded, since they are not needed), dumps an INFORM LIST from PATCHER, dumps TRAP, CC and CMC logs, a SHOW USERS list, various tables, and hardware statuses. ACTTO must be read to completion (e.g. do not `<break>`-'`HX`', '`HXX`', or '`STOP`').
		
		Note: This file is to be read by only one user at a time. If for some reason the user cannot read ACTTO and if no other user is reading ACTTO, then the user having problems should repeat these three steps as many times as required to remove all references to ZZA (i.e. if a `<break>`-'`STOP`' was performed):
		`>ERASE ZZA`
		`>LISTSF ALL`
		`>ERASESF ZZA`
		`>ABORT` {if previous substep output was '`Wrong type of filename`'}
			SITE

- Procedure continued -

Procedure 5
Site responsibilities on the conversion day (Continued)

Step	Node	Action	Resp
2 cont	NT40	To get the ACTTO file started.	SITE

```
      >LOGUTIL;STOPDEV <printer>;QUIT
```

Note: **printer** refers to a printer name (from table TERMDEV) to be used for a hard copy print out. Be sure the printer has a plentiful supply of paper.

```
      >RECORD START ONTO <printer>
      >LISTSF ALL
      >READ ACTTO
CREATED ZZA
ENTER "SITE" FOR COMPLETE SITE INFORMATION OR
"APP" FOR SHORTER APPLICATOR INFORMATION
"TOTAL" FOR TOTAL TELCO AND APP INFORMATION
      >TOTAL
ENTER "BCSXX" WHERE XX = THE PRESENT...BCS NUMBER
EX. FOR BCS 24 ENTER "BCS24"
      >BCS23                         {or current NT40 BCS load}
DO YOU WANT A LIST OF INB LINES
IF YES, TYPE: YESLN
IF NO, TYPE: NOLN
      >YESLN                         {NOLN if site does not require
                                      a list of INB lines}.
DO YOU WANT A LIST OF INB TRKS
IF YES, TYPE: YESTRK
IF NO,    TYPE: NOTRK
      >YESTRK                        {NOTRK if site does not require
                                      a list of INB trunks}
                       •
                       •
**********************************************
*                                            *
*  RETAIN PRINTOUT FOR APPLICATION COMPARISON *
*                                            *
**********************************************
                       •
                       •
DO YOU WANT TO DUMP THE REGISTERS?   {output only when
                                      the office has line features}
IF YES, TYPE: YESREG
IF NO,  TYPE: NOREG
      >YESREG                {NOREG if site does not require a list
                              of 1MR, INW, or OFS registers}
```

- Procedure continued -

Procedure 5
Site responsibilities on the conversion day (Continued)

Step	Node	Action	Resp

2 cont	NT40	`INWATTS ?`
		`IF YES, TYPE: YESINW`
		`IF NO, TYPE: NOINW`
		`>YESINW` {`NOINW` if site does not require a list of INWATT registers}
		`OFS ?`
		`IF YES, TYPE: YESOFS`
		`IF NO, TYPE: NOOFS`
		`>YESOFS` {`NOOFS` if site does not require a list of OFS registers}
		`1MR ?`
		`IF YES, TYPE: YES1MR`
		`IF NO,  TYPE: NO1MR`
		`>YES1MR` {`NO1MR` if site does not require a list of MR registers}
		Note: This is the end of site preparation and the start of the SuperNode conversion.
			SITE

Conversion preparation procedures

This is the start of the conversion process. It actually starts at the time the applicator contacts the site. Some of the procedural steps outlined may have been completed prior to the contact from the applicator (e.g. *SuperNode booting*). The responsibilities indicated are only suggested and are meant as a guideline. They can be overridden by mutual consent between applicator, site personnel, and installation.

SuperNode booting through *Other data verifications* procedures are noncritical procedures. *Convert to SuperNode* and *Post conversion* procedures are the most critical procedures.

Notes

Do not attempt any step until the applicator asks the responsible person(s).

If DPP firmware needs to be changed, it must be completed prior to 0300 (reference *Switch IOCs to SuperNode*, step 2.C).

Procedure 6
SuperNode booting

Step	Node	Action	Resp
1	S-N	Copy all SuperNode patches and other critical files to tape.	SITE

2	S-N	Boot the SuperNode. Verify step 1 has been performed.
		
		Note: Do not boot the SuperNode if already done.
		
		A Boot from 9-track MTD; otherwise, go to 2.B for SLM instructions.
		Install a SuperNode datafilled image on the CIOC tape drive.
		At the INACTIVE RTIF enter:
		`RTIF>\BOOT` <**loadroute**> {**loadroute** is `C0` or `C1`; 0 is MS0 and 1 is MS1}
		`Waiting for Activity.`
		At the ACTIVE RTIF enter:
		`RTIF>\JAM`
		B SLM boot instructions
		Insert the datafilled image SLM cartridge into a SLM drive.
		At the INACTIVE RTIF enter:
		`RTIF>\BOOT SLM<`**slm**`>T` {**slm** is 0 or 1, where ever the SLM cartridge is installed}
		`Waiting for activity.`
		At the ACTIVE RTIF enter:
		`RTIF> \JAM`
		C While the SuperNode is booting, continue with *Preliminary phase* procedure, if this procedure is being performed on the conversion night.
			SITE
			INST

Procedure 7
Preliminary phase

Step	Node	Action	Resp
1	NT40	Verify that ACTTO and PMINFO (not valid for BCS29 and higher) are in SFDEV. If they are missing, copy the files from the NT40 BCSTOOLS tape.	APP
2	NT40	The applicator may alter the ACTTO file in order to predelta dump the tables as follows: 1 `>EDIT ACTTO` 2 `>DOWN 'D XXZ'` {'`COMMAND XXZ(...)`' shows} 3 `>DELETE` {'`COMMAND SSY(...)`' shows} 4 `>DELETE` 5 `>INPUT B` {'`INPUT:`' prompt shows} 6 `>COMMAND XXZ(RP;RFMT TAB @1 ALL INP FILE @1` <**Tx**>`)` 7 `>COMMAND RP(REPEAT 2(PRINT ' '))` 8 `>`<**cr**> {'`EDIT:`' prompt shows} 9 `>DOWN` 10 `>PRINT LINE` {retain for substep 12} 11 `>CHANGE GLOBAL 'SSY ' 'XXZ '` 12 `>LINE` <**number from 10**> 13 `>CHANGE GLOBAL 'YYZ;XXZ ' 'XXZ '` 14 `>FILE SFDEV` <**act delta**> 15 `>MOUNT` <**tape drive from 6**> `FORMAT` <**volume**> 16 `>ERASE RP` 17 `>RFMT SET` <**xx**> <**yy**> {**xx** is NT40 BCS and **yy** is SuperNode BCS}	APP

3	NT40	***Note:*** ACTTO must be read to completion (i.e. do not <**break**>-'`HX`', '`HXX`', or '`STOP`'). This file is to be read by only one user at a time. If for some reason the user cannot read ACTTO and if no other user is reading ACTTO, then the user having problems should repeat this step as many times required to remove all references to ZZA (i.e. if a <**break**>-'`STOP`' was performed):
		
		`>ERASE ZZA;LISTSF ALL;ERASESF ZZA`
		`>ABORT` {if previous substep output was '`Wrong type of filename`'}
		Start the ACTTO file (or variation created in step 2.14).
		`>READ ACTTO` {or variation created in step 2.14}
		`>TOTAL`
		`>BCS`<**xx**> {**xx** refers to the NT40 BCS load}
			APP

- Procedure continued -

Procedure 7
Preliminary phase (Continued)

Step	Node	Action	Resp

		Answer the rest of the questions using your own discretion (output only when the switch is a DMS 100 or COMB).
		`>YESLN` or `NOLN`
		`>YESTRK` or `NOTRK`
		`>YESREG` or `NOREG`
		`>YESINW` or `NOINW`
		`>YESOFS` or `NOOFS`
		`>YES1MR` or `NO1MR`
			APP

4	NT40	Verify the following from the ACTTO (or variation created in step 2.14) file.
		A If needed modules are missing, then load them from the NT40 BCSTOOLS tape (i.e. DRUTILUI, DRTABEX, RFMT20 or RFMTAB thru RFMTYZ and RFMTAP, RFMTCI, JFDUMP, and SORT).
		B Dump data for *Data verification* procedure to hard copy.
		1 `>DRAMREC`
		2 `>DISPLAY` <**dram_no**> {**dram_no** refers to the dram number, start with 0}
		3 Repeat substep 2, incrementing **dram_no** by one, until '`INVALID DRAM NUMBER.`' response is given, ignore '`UNKNOWN DRAM`' response.
		4 `>QUIT`
		C Record the status of DTDETECT.
		1 For BCS25 and lower; otherwise, go to substep 2.
		`>DTDETECT`
		`>RESET`
		Note: If '`DO YOU WANT TO CLEAR DN LIST ANS (Y/N)`' is output, DTDETECT is started. Enter '`NO`' for the confirmation question; else, if '`DIGITONE DETECTION SERVICE NOT STARTED`' is output, then DTDETECT is not started.
		`>QUIT`
		2 For BCS26 and higher.
		`>DTDETECT;DTSTATUS;QUIT`
		D Go to LOGUTIL and record the list of special reports.
		`>LOGUTIL;LISTREPS SPECIAL;QUIT`
		E Verify proper peripheral load names and exec lineups with the *PERIPHERAL SOFTWARE RELEASE DOCUMENT*. Ensure all peripherals have been loaded with proper load before the conversion. This includes regular and new peripherals. Do not proceed until all peripherals are loaded with correct PM loads and patched.
			APP

5		If the boot was unsuccessful. **A** Note the boot error message and repeat *SuperNode booting* procedure.	ALL

- Procedure continued -

Procedure 7
Preliminary phase (Continued)

Step	Node	Action	Resp
		B If the second attempt is unsuccessful, note the boot error, use a different image tape and repeat *SuperNode booting* procedure.	
6	S-N	Once the boot is successful (the active RTIF will be flashing A1).	SITE
		A Remove the image from the MTD or SLM.	

		B SYNC the SuperNode CMs.
		`>MAPCI;MTC;CM;SYNC`
		`>QUIT MAPCI`
			APP

7	NT40	**A** Remove disk parallel subsystems from DIRP (record the information for the *Post conversion* procedure). 1 `>TABLE DIRPSSYS;LIST ALL` {record all SSYSNAMEs where the PARVOL is not '$'} 2 `>MAPCI;MTC;IOD;DIRP` ***Note:*** It is not necessary to remove tape devices at this time. 3 `>CLOSE` <**subsystem**> `PARALEL` 4 Repeat substep 3 for all subsystems with a PARVOL assigned. 5 `>QUIT MAPCI` 6 `>POS` <**ssysname**> {**ssysname** refers to the subsystem where PARVOL is not '$'} 7 `>CHANGE PARVOL $` 8 `>Y` {for confirmation} 9 Repeat substeps 6 thru 8 for all subsystems with a PARVOL assigned. 10 `>QUIT`	SITE
		B List all disks which had parallel volumes assigned. `>DSKUT` `>LISTVOL` <**disk_volume**> `ALL` {**disk_volume** is any volume which had parallel subsytem assigned in step 7.A}	
		C `>DIRPCOPY` <**parvol**> {**parvol** refers to the parallel file required by the site}	
		D Prepare PARVOL(s) to mount in *Post conversion* procedure. 1 If BCS23 and lower, continue; otherwise, go to substep D.2. `>ERASEFL` <**parvols**> 2 Perform this step for BCS24 and higher. `>PRIVERAS` <**parvols**>	
		E Format the disk volumes for *Post conversion* procedure. `>DIRPPFMT` <**disk_volume**> `>YES` {to confirm time requirement}	

- Procedure continued -

Procedure 7
Preliminary phase (Continued)

Step	Node	Action	Resp
		Repeat substeps C thru E for all subsystems which had a disk PARVOL assigned. `>QUIT`	
8	BOTH	Ensure RWOK is loaded. `>QUERY RWOK` ***Note:*** If RWOK is not loaded, it must be loaded from appropriate TAS NON-RES tape.	APP
9	S-N	On the terminal which is connected to the SuperNode CIOC: <**break**> ?LOGIN (Enter username and password.) >OPERATOR OPERATOR >MAPCI;MTC;IOD;IOC 0;CARD 2;BSY <**p**>;RTS <**p**> {**p** refers to the port which the applicator will use on the CIOC} >QUIT MAPCI	SITE
10	S-N	From a SuperNode terminal. <**break**> ?LOGIN (Enter username and password.) >ADMIN ADMIN >SETDATE <**dd**> <**mm**> <**yy**> {if date is incorrect} >SETTIME <**hh**> <**mm**> {if time is incorrect} >SETLOGMSG <**text**> {CM and both MSs} >LOGUTIL >OPEN CM;WHILE(BACK)() >OPEN MS;WHILE(BACK)() >OPEN MM;WHILE(BACK)() >TRAPINFO >QUIT >LISTSF ALL >ERASESF NDEVSTAT {if in SFDEV} >ERASESF CARRSTAT {if in SFDEV} >ERASESF RALLSTAT {if in SFDEV} ***Note:*** Check for CM 119 trap, store parity message, MM (mismatch logs), and store checksum. Do not continue until all messages have been explained. The messages may mean the load is corrupted.	APP
11	S-N	Ensure that the dump and restore report has been read and all errors are corrected before the conversion. This report can be a hardcopy document or a store file (e.g. FTSACTION or DATAREPORT).	APP

Procedure 8
Journal file dump and restore

Step	Node	Action	Resp
1	NT40	**A** Manual journal file dump. If JFFREEZE was used in *NT40 office image capture* procedure, go to substep B.	APP
		Note: If BCS <xx> is 26 or 27, substep A must be performed (Module JFDUMPF is not available).	
		1 >QUERY JFDUMP	
		If the module is loaded go to substep 8.	
		2 >LIST(MOUNT <**x**>) {the SuperNode BCS tools tape}	
		3 >LOAD JFDUMP	
		4 >COPY SEQLIST SFDEV	
		5 >COPY PMINFO SFDEV	
		6 >LISTSF	
		7 >DEMOUNT <**Tx**>	
		8 >RFMT SET <**xx**> <**yy**>	
		9 >JF STOP	
		10 >MAPCI;MTC;IOD;DIRP	
		11 Record the active file name and have the site update their Journal File Log Book.	SITE
		12 >CLOSE JF ACTIVE	SITE
		13 >YES {for confirmation}	
		14 >QUIT MAPCI	
		15 Install a scratch tape with write ring.	SITE
		16 >MOUNT <**x**> FORMAT <**volume**>	APP
		17 List the tape or disks containing journal files to be dumped.	
		18 >JFDUMP <**jfin**> <**jfout**> <**Tx**> <**xx**> <**yy**>	
		Note 1: **jfin** refers to the journal file name; for **jfout**-use 'JFA' thru 'JFZ', then use 'JFAA' thru 'JFZZ' (e.g. 'JFDUMP U880405000090JF JFA T1 25 28' dumps file U880405000090JF to file JFA onto T1 formatting from BCS25 to BCS28).	
		Note 2: Process each journal file in the order it was created.	
		19 Repeat substep 17 for each journal file	
		B JFFREEZE journal file dump.	
		1 >JF STOP	
		2 >MAPCI;MTC;IOD;DIRP	
		3 >Record the active file name and have the site update their Journal File Log Book.	
		4 >CLOSE JF ACTIVE	
		5 >YES	
		6 >QUIT MAPCI	
		7 >JFFREEZE HISTORY {site retains for their records}	BOTH

- Procedure continued -

Procedure 8
Journal file dump and restore (Continued)

Step	Node	Action	Resp
		8 Install a scratch tape with write ring. 9 >MOUNT <**x**> FORMAT <**volume**> 10 >JFDUMPF <**Tx**> <**xx**> <**yy**> {this dumps all journal files listed in substep 1} 11 >LISTSF ALL 12 >COPY DMOLIST <**Tx**> {if DMOLIST was listed substep 5} ***Note:*** The site is responsible to input all DMOs from the DMOLIST. (These are DMOs which were input when JFFREEZE was suspended.)	SITE APP
2	NT40	Create, then copy INBLIST (INBLIST is created by ACTTO), MBTRK, RESTRK, and other applicator files to this tape. ***Note:*** If the message 'File is empty' is output when using the 'DELETE' command, enter 'QUIT' and move to the next file. (This would mean there are no trunks in the specified state.) **A** Create MBTRK. >MAPCI NODISP;MTC;TRKS;TTP >SEND SFDEV MBTRK >POST A MB LIST >SEND PREVIOUS **B** Create RESTRK. >SEND SFDEV RESTRK >POST A RES LIST >SEND PREVIOUS >QUIT MAPCI **C** Configure MBTRK to work as an exec. >EDIT MBTRK EDIT: >DELETE TOF SOME_CLLI 1 EDIT:	APP

- Procedure continued -

Procedure 8
Journal file dump and restore (Continued)

Step	Node	Action	Resp

```
>END
END OF LIST
EOF
EDIT:
>DELETE
SOME_CLLI      101
EOF
EDIT:
>SEND SINK
>REPEAT(LINE)(CHANGE '' 'PTF ';UP)
>SEND PREVIOUS
EDIT:
>INPUT
INPUT:
>COMMAND PTF(POST T @1 @2;FRLS)
><cr>
EDIT:
>FILE <Tx>                       {See note if empty.}
```

D Configure INBLIST to work as an exec. — APP

```
>EDIT INBLIST
EDIT:
>DELETE
TOF
SOME_CLLI       1
EDIT:
>END
END OF LIST
EOF
EDIT:
>DELETE
SOME_CLLI      101
EOF
EDIT:
>SEND SINK
>REPEAT(LINE)(CHANGE '' 'PTBI ';UP)
>SEND PREVIOUS
EDIT:
>INPUT
INPUT:
>MAPCI NODISP;MTC;TRKS;TTP
>COMMAND PTBI(POST T @1 @2;FRLS;BSY INB)
><cr>
EDIT:
>FILE <Tx>                       {See note if empty.}
```

- Procedure continued -

Procedure 8
Journal file dump and restore (Continued)

Step	Node	Action	Resp
2 cont	NT40	**E** Configure RESTRK to work as an exec. >EDIT RESTRK EDIT: >DELETE TOF SOME_CLLI 1 EDIT: >END END OF LIST EOF EDIT: >DELETE SOME_CLLI 101 EOF EDIT: >SEND SINK >REPEAT(LINE)(CHANGE '' 'PTRR ';UP) >SEND PREVIOUS EDIT: >INPUT INPUT: >COMMAND PTRR(POST T @1 @2;FRLS;RTS RES) ><**cr**> EDIT: >FILE <**Tx**> {See note if empty.}	APP
3	NT40	Create new NDEVSTAT, CARRSTAT, and RALLSTAT files. >RFMT NDEV <**Tx**> >RFMT CARR <**Tx**> >RFMT RALL <**Tx**> >DEMOUNT <**Tx**>	APP
4	S-N	Install the tape on the CIOC tape drive.	SITE
5	S-N	DMOPRO all journal files dumped in the correct order. ***Note:*** For BCS30 or higher use the RESTAB command. RESTAB syntax is as follows: RESTAB <**filename**> <**from BCS number**> 1 >RECORD START ONTO <**cioc_printer**> 2 >LIST(MOUNT <**x**>) 3 >RWOK ON 4 >DMOPRO <**jf_filename**> {**jf_filename** refers to dump files listed in substep 2.} 5 Correct all errors after each DMOPRO command. 6 Repeat substeps 4 and 5 for each dump file listed in substep 2. 7 >RECORD STOP ONTO <**cioc_printer**> 8 If JFDUMPF was used in step 1.B, input all DMOs from the DMOLIST form step 1.B.6 (if applicable). 9 >COPY <**filename**> SFDEV {**filename** refers to needed files: STAT files, trunk files, etc.} 10 >COPY NDEVSTAT SFDEV;COPY CARRSTAT SFDEV 11 >COPY RALLSTAT SFDEV;DEMOUNT <**Tx**>	APP SITE APP SITE APP

Procedure 9
Data verification

Step	Node	Action	Resp

1	S-N	**A** The applicator may use the TABDELTA option as follows; otherwise, go to 1.B.
		1 Create TABDELTA file.
		`>MOUNT <x>` {tape used from PREDELTA dump}
		`>SEND SFDEV SDELTA`
		`>LIST <Tx>`
		`>SEND PREVIOUS`
		`>EDIT SDELTA`
		`>END` {clean up all other records; CARRSTAT, CARRSTAT, NDEVSTAT, trunk files, etc., using `DELETE`}
		`>REPEAT (LINE)(CHANGE '' 'OD ';UP)`
		`>FILE SFDEV SDELTA`
		Note: Long command, next three lines, follows. The <**cr**> means to type a carriage return and continue on the next command line. Two lines are connected by an '↵', but will be able to be input on a single command line.
		`>COMMAND OD(COPY @1 SFDEV; <cr>`
		`>TABDELTA @1 (STRTOSYM(PARNAME @1)+'D') ↵`
		`SFDEV;ERASESF @1)`
		`>RECORD START ONTO <cioc_printer>`
		`>READ SDELTA`
		`>LISTSF ALL`
			APP

		Correct all discrepancies found (the return code will not equal 0). The output file will be the TABLE_NAME+D (i.e. table OFCENG file will be OFCENGD). `>RECORD STOP ONTO <cioc_printer>`	BOTH
		2 Halt ATT. `>MAPCI;MTC;TRKS;ATT;HALTATT Y;QUIT MAPCI`	APP

		3 Enable AMAB logs.
		`>TABLE AMAOPTS`
		`>REP LOGAMA ON`
		`>QUIT`
		`>TABLE OFCVAR`
		`>REP SPECIAL_AMA_REPORT Y BOTH 32767`
		`>REP SMDR_LOG_RPT ALL 32767`
		`>REP CDR_ENABLE_LOG_ALL`
		`>REP MCDR_LOG_RPT ALL 32767`
		`>QUIT`	

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp
1 cont	S-N	**B** Verify ACTTO<**xx**> is in SFDEV. If not, copy it from the SuperNode BCSTOOLS tape (if bypassing the delta). Start the ACTTO<**xx**> file.	APP
		Note: ACTTO must be read to completion (i.e. do not <**break**>-'HX', 'HXX', or 'STOP'). This file is to be read by only one user at a time. If for some reason the user cannot read ACTTO and if no other user is reading ACTTO, then the user having problems should repeat this step as many times required to remove all references to ZZA (i.e. if a <**break**>-'STOP' was performed):	
		`>ERASE ZZA;LISTSF ALL;ERASESF ZZA`	
		`>ABORT` {if previous substep output was 'Wrong type of filename'}	

		`>RECORD START ONTO <cioc_printer>`
		`>READ ACTTO<xx>`
		`>TOTAL`
		`>BCS<xx>`	

		Answer the rest of the questions using your own discretion (output only when the switch is a DMS 100 or COMB).	

		`>YESLN` or `NOLN`
		`>YESTRK` or `NOTRK`
		`>YESREG` or `NOREG`
		`>YESINW` or `NOINW`
		`>YESOFS` or `NOOFS`
		`>YES1MR` or `NO1MR`	

		C Perform the following:	
		- Check for CM 119 trap, store parity message, MM (mismatch logs), and store checksum. Do not continue until all messages have been explained. The messages may mean the load is corrupted.	
		- Determine the amount of available memory. Confer with on-line support groups as required.	
		- Verify Patcher contains the packages ordered.	
		- Ensure that the devices that should be started after the conversion and are correctly datafilled in table LOGDEV. If they are not datafilled, datafill them by hand. If any non-terminal devices exist, DELETE them (only terminal devices from table TERMDEV are to be datafilled).	
		- Verify each user name, priority, and stacksize.	
		- Verify and correct the INB lines. The INB, RES, and MB trunks in the SuperNode will be restored by the applicator (the RES and MB trunks will be restored after the conversion).	SITE

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp
1 cont	S-N	- If NTX099AA has been added to the load, then the site is to verify the correct setting for tuple OMHISTORYON (Y or N) in table OFCOPT.	BOTH
		D Verify DRAM recordings with data from *Preliminary phase* procedure and change if necessary. 1 `>DRAMREC` 2 `>DISPLAY` <**dram_no**> {**dram_no** refers to the dram number, start with 0} 3 Repeat substep 2, incrementing **dram_no** by one, until '`INVALID DRAM NUMBER.`' response is given, ignore '`UNKNOWN DRAM`' response. 4 `>QUIT`	APP

		E Verify the status of DTDETECT with data from *Preliminary phase* procedure, and change if necessary.
		1 For BCS25 and lower; otherwise, go to substep E.2.
		`>DTDETECT`
		`>RESET`
		Note: If '`DO YOU WANT TO CLEAR DN LIST ANS (Y/N)`' is output, DTDETECT is started. Enter '`NO`' for the confirmation question; else, if '`DIGITONE DETECTION SERVICE NOT STARTED`' is output, then DTDETECT is not started.
		`>QUIT`
		2 For BCS26 and higher.
		`>DTDETECT;DTSTATUS;QUIT`	

		F Verify LOGUTIL special reports with data from *Preliminary phase*, and change if necessary. `>LOGUTIL;LISTREPS SPECIAL;QUIT`	
2	S-N	**A** Verify all OFCPARMS are correct. Change if necessary.	APP

	NT40	**B** Change tuple NODEREXCONTROL field REXON to N.
		`>TABLE OFCVAR;POS NODEREXCONTROL`
		`NODEREXCONTROL bool hh mm hh mm`
		`>CHANGE`
		`bool hh mm hh mm` {retain **hh mm hh mm** for later}
		`>N` <**hh mm hh mm**> {**hh mm hh mm** is not changed}
		`>QUIT`	

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp

2 cont	S-N	**C** Change tuple NODEREXCONTROL:
		`>TABLE OFCVAR;POS NODEREXCONTROL`
		`NODEREXCONTROL          bool hh mm hh mm`
		`>CHANGE`
		`bool hh mm hh mm` {retain **hh mm hh mm** for later}
		`>N 8 30 10 30`
		`>QUIT`
		Note: The times are irrelevant. Verify they are set to a value past the scheduled conversion time.
			APP

		D Verify the correct value for tuple CPSTACKSIZE in table OFCSTD: - `850` {BCS24 only} - `1504` {BCS25 and higher}	
	S-N	**E** Verify the correct value for tuple REMTERMEQP in table OFCENG is 'Y' when REMOTE RTIF is equipped or 'N' when REMOTE RTIFs are not equipped.	

3	BOTH	Offices equipped with RCCs, ensure both the RCC and the host LTC, LGC, or RCC match between the NT40 and SuperNode.
		`>MAPCI;MTC;PM`
		`>POST RCC <`**`pm`**`>` {**pm** refers to the RCC number}
		Ensure the active units match. If there is a mismatch, the NT40 XPM will have to be SWACT.
		`>TRNSL MSG C`
		Identify the host PM type (i.e. LTC, LGC, or RCC) from the MSGlink data.
		`>POST <`**`host`**`> <`**`pm`**`>` {**host** refers to the PM type and **pm** refers to the PM number}
		Ensure the active units match. If there is a mismatch, the NT40 XPM will have to be SWACT.
		Repeat step 3 for all other RCCs.
			APP

4	NT40	**A** Offices equipped with OM polling (NTX059AB or NTX804AA), identify subsystems datafilled in table DIRPSSYS.
		`>TABLE DIRPSSYS`
		`>LIST ALL`
		Record all subsystems (look in field 'SSYSNAME')
		`>QUIT`
			APP

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp

4 cont	S-N	**B** Query each SSYSNAME from step 4.A in the XFER level and record the SSNAME, PROTOCOL_ID, FKEY and RMODE.
		`>MAPCI;MTC;IOD;XFER`
		`>QUERY SSYS` <**key**> {**key** is SSYSNAME from step 4.A}
		`>QUIT MAPCI`
			APP

	BOTH	**C** Restore each defined subsystem from step 4.B on the SuperNode. 1 `>MAPCI;MTC;IOD;XFER` ***Note:*** Perform step 2 only if SSNAME is not defined in step 4.B. 2 `>DEFINE` <**ss**> <**p_id**> <**mode**> <**key**> ***Note:*** **ss** refers to the SSNAME, **p_id** refers to the PROTOCOL_ID, **mode** refers to the RMODE, and **key** refers to the FKEY, from step 4.B} 3 `>QUIT MAPCI`	APP
	BOTH	**D** Check if NOP (NTX560) datafill is present. `>TABLE STREAM;LIST ALL` {verify data matches} `>TABLE GDLADEV;LIST ALL` {verify data matches} ***Note:*** If the data does not match, change the SuperNode data to match the NT40. `>QUIT 2`	

5	S-N	Update status of all SuperNode hardware by using hardware update execs.
		`>LISTSF ALL`
		Note: If files NDEVSTAT, CARRSTAT, RALLSTAT, INBLIST, MBTRK, and RESTRK are not in SFDEV, copy them from the JFDUMP tape created in *Journal file dump and restore* procedure.
		`>READ NDEVSTAT`
		`>READ CARRSTAT`
		`>MAPCI;MTC;TRKS;TTP`
		`>POST A INB`
		`>BSY ALL` {wait until the BUSY QUEUE is IDL}
		`>QUIT ALL`
		`>READ INBLIST`
			APP

6	S-N	Verify no MS cards are OFFL. 1 `>MAPCI;MTC;MS;SHELF 0` 2 `>BSY` <**ms**> <**card**> {BSY all cards which are OFFL} 3 Repeat substep 2 until all OFFL cards are MANB. 4 `>QUIT MAPCI`	APP

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp
7	S-N	Copy SuperNode patches to the Patch Tape.	APP
		1 Install the patch tape with a write enable ring on the SuperNode CIOC. If there is no patch tape, use a scratch tape.	SITE
		2 `>LISTSF ALL`	APP
		Note: If using an existing patch tape, perform substep 3; otherwise, perform substep 4.	
		3 `>LIST(MOUNT` <**x**>`)` {existing patch tape}	
		4 `>MOUNT` <**x**> `FORMAT SNPAT` {scratch tape}	
		5 `>COPY` <**patch_id**> <**Tx**>	
		6 Repeat substep 5 for all SuperNode patches in SFDEV.	
		7 `>DEMOUNT` <**Tx**>	
8	S-N	Patch the CM.	APP
		Note: CM patches are designated as 'AAABB **CYY**$PATCH' where 'AAA' is the patch writer's initials, 'BB' is the numbered patch from the patch writer, '**yy**' is the BCS number, and ' **C**' identifies CM patches.	
		1 `>PATCHER`	
		2 `>INFORM LIST BCS`<**yy**> {if BCS**yy**RTM is found, go to substep 4}	

		3 `>EDIT BCS`<**yy**>`RTM$PATCH`
		`>INPUT`
		`>%%` <**cr**>
		`>`<**cr**>
		`>FILE SFDEV`
		`>APPLY BCS`<**yy**>`RTM`	

		4 Apply patches. `>DISPLAY` <**patch_id**> `>CHECK` <**patch_id**> `>APPLY` <**patch_id**>	
		5 Repeat substep 4 for each CM patch.	
		6 `>INFORM LIST`	
		7 `>ERASESF` <**$ld**> {**$ld** refers to patch modules left in SFDEV}	
		8 `>ERASESF` <**file**> {**file** refers to all unnecessary applicator files}	
9	S-N	**A** Verify which MS is the SLAVE clock.	APP
		1 `>MAPCI;MTC;MS` {look under the CLOCK field for the Slave clock}	
		2 `>QUIT MAPCI`	

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp
9 cont	S-N	**B** Patch the MS for BCS27 and lower; otherwise, go to substep C for BCS28 and higher.	APP

> ***Note:*** MS patches are designated as 'AAABB **<u>M</u>YY**$PATCH' where 'AAA' is the patch writer's initials, 'BB' is the numbered patch from the patch writer, '**yy**' is the BCS number, and ' **<u>M</u>**' identifies MS patches.

1 Verify the total number of files in SFDEV is less than 31; otherwise, copy the MS patches to a formatted scratch tape.

2 `>REMLOGIN MS <`**`z`**`>` {**z** refers to the Slave MS Clock in substep A.1}

3 >MSz>RFSCOM

4 `MSz>FINDDEV SFDEV CM` {if using SFDEV}

or

4 `MSz>FINDDEV TAPE CM` {if using tape}

5 `MSz>FINDFILE CMSFDEV` {if using SFDEV}

or

5 `MSz>FINDFILE CM<`**`Tx`**`>` {if using tape}

6 `MSz>PATCHER`

7 `MSz>INFORM LIST BCS<`**`yy`**`>` {if BCS**yy**RTM is found, go to substep 8}

8 `MSz>EDIT BCS<`**`yy`**`>RTM$PATCH`
`MSz>INPUT`
`MSz>%% <`**`cr`**`>`
`MSz><`**`cr`**`>`
`MSz>FILE SFDEV`
`MSz>APPLY BCS<`**`yy`**`>RTM`

9 Apply patches to the MS.

`MSz>DISPLAY <`**`patch_id`**`>`
`MSz>CHECK <`**`patch_id`**`>`
`MSz>APPLY <`**`patch_id`**`>`

10 Repeat substep 8 for each MS patch.

11 `MSz>INFORM LIST` {retain for substep 17}

12 `MSz>QUIT`

13 `MSz>LISTSF ALL`

14 `MSz>ERASESF <`**`file`**`>` {**`file`** refers to all files inSFDEV except '`LOGIN STDFAULT`'}

15 >MSz>QUIT ALL

16 `MSz>REMLOGOUT`

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp
9 cont	S-N	17 Switch the MS Clock mastership. >MAPCI;MTC;MS >SWMAST >QUIT MAPCI	APP
		18 Repeat substeps 2 thru 14 substituting **z** and **MSz** with the other MS.	
		19 Verify patches in MS 0 are in MS 1 from the INFORM LISTs.	
		C Patch the MS on BCS28 and higher.	
		Note: MS patches are designated as 'AAABB **I****YY**$PATCH' where 'AAA' is the patch writer's initials, 'BB' is the numbered patch from the patch writer, '**yy**' is the BCS number, and ' **I**' identifies MS patches.	
		1 >PATCHER	
		2 Apply patches to the MS. >DISPLAY <**patch_id**> MS <**z**> >CHECK <**patch_id**> MS <**z**> >APPLY <**patch_id**> MS <**z**>	
		Note: **z** refers to the Slave MS Clock from substep A.1.	
		3 Repeat substep 2 for each MS patch.	
		4 >INFORM MS <**z**> {retain for substep 17}	
		5 Switch the MS Clock mastership. >MAPCI;MTC;MS >SWMAST >QUIT MAPCI	
		6 Repeat substeps 2 thru 4 substituting **z** with the other MS.	
		7 Verify patches in MS 0 are in MS 1 from the INFORMs.	
		8 >QUIT	
		9 >LISTSF ALL	
		10 >ERASESF <**$ld**> {**$ld** refers to patch modules left in SFDEV}	
		11 >ERASESF <**file**> {**file** refers to all unnecessary applicator files}	
10	S-N	Once everything is correct (i.e. office parameters, node status, etc.) >RESTART RELOAD >YES	APP

- Procedure continued -

Procedure 9
Data verification (Continued)

Step	Node	Action	Resp
11	S-N	When the active RTIF comes back flashing A1, login and SYNC the CM complex, BSY all network modules, and verify PM and CARRIER status. 1 `<`**`break`**`>` 2 `?LOGIN` 3 `(Enter username and password.)` 4 `>ADMIN ADMIN` 5 `>MAPCI;MTC;CM;SYNC` 6 `>NET` 7 `>BSY <`**`plane`**`> <`**`pair`**`>` 8 Repeat the substep 7 for each network module. 9 `>QUIT ALL` 10 `>CIPROMPT SETPROMPT OFF` {all NT40 INSV and ISTB must show as CBSY} 11 `>READ RALLSTAT` 12 `>CIPROMPT SETPROMPT ON` ***Note 1:*** If any PMs are staying "MANB" and cannot be made "CBSY" by repeating the "restart reload" or by the "rts" command at the "PM" level of the map, then contact the "PM TAS" group before proceeding. ***Note 2:*** If any carriers are in the wrong state, RTS does not work. BSY the carriers which are incorrect and do another RESTART RELOAD.	APP

12	S-N	**A** If the NT40 and the SuperNode BCSs are equal, then verify CORESWCT module is loaded; otherwise, if the NT40 and the SuperNode BCSs are not equal, go to 12.B.
		`>QUERY CORESWCT`
		If it is not loaded
		`>LIST(MOUNT <`**`x`**`>)` {the SuperNode TAS-NON Tape}
		`>LOAD CORESWCT`
		After loading or if it was loaded
		`>CORESWCT LIST`
		IF any PMs are shown, correct their state to CBSY.
		`>CORESWCT QUERY` {verify FLAG is set `TRUE`}
		IF FLAG is SET FALSE
		`>CORESWCT SET TRUE`
		`>CORESWCT QUERY` {verify FLAG is set `TRUE`}
		B If the NT40 and the SuperNode BCSs are not equal:
		`>UNLOAD CORESWCT`
			APP

Procedure 10
Custom calling feature dump and restore

Step	Node	Action	Resp
1	NT40	Dump custom calling feature data from the NT40 if equipped with POTS (NTX900) or IBN (NTX100) features; otherwise, go to *Switch IOC 1 and up to SuperNode*.	APP
		A Install a scratch tape with a write enable ring.	SITE
		`>MOUNT` <**x**> `FORMAT` <**volume_name**>	APP

	BOTH	**B** If AMA format is BCFMT, verify tuples are in table CUSTFLDS; otherwise, go to step 2.
		`>TABLE CUSTFLDS`
		`>POS CFW 1` {POTS office}
		`>POS CFW 2` {POTS office}
		`>POS CFX 1` {IBN office}
		`>POS CFX 2` {IBN office}
		`>POS CFX 3` {IBN office and BCS25 or BCS26}
		`>QUIT`
		If any are missing, perform the following procedure; otherwise, go to step 2.
		`>READ ADDFIELD1` {if currently BCS24}
		`>READ ADDFIELD2` {if currently BCS25 or BCS26}	

2	NT40	To dump the current contents of CFW, SCALLTAB and RCFCLI tables with the POTS feature. ***Note:*** Custom calling feature tables formatted to DDU on IOC 1 has proved more reliable, convenient, and faster than tape. `>RFMT TAB CFW ALL INP FILE CFW` <**Tx**> **A** If any REM tuples were dumped (i.e. '`n tuples were formed for table LINEATTR`' and '`n REM type tuples were reformatted`') were output, continue; otherwise, go to substep B. `>COPY LNATTR2` <**Tx**> `>COPY CFW$REM` <**Tx**> **B** Finish dumping POTS custom calling feature data. `>RFMT TAB SCALLTAB ALL INP FILE SCALLTAB` <**Tx**> `>RFMT TAB RCFCLI ALL INP FILE RCFCLI` <**Tx**>	APP
3	NT40	To dump the current contents of the CFX, IBNSC, and ACSCALL tables with the IBN feature. `>RFMT TAB CFX ALL REP FILE CFX` <**Tx**> `>RFMT TAB IBNSC ALL INP FILE IBNSC` <**Tx**> `>RFMT TAB ACSCALL ALL INP FILE ACSCALL` <**Tx**>	APP
4	NT40	Verify all the files are on the tape. `>LIST` <**Tx**> `>DEMOUNT` <**Tx**>	APP
		Install the tape to the CIOC MTD.	SITE

- Procedure continued -

Procedure 10
Custom calling feature dump and restore (Continued)

Step	Node	Action	Resp

5	S-N	Verify tables CFW, SCALLTAB, RCFCLI, IBNSC and ACSCALL are empty on the SuperNode.
		`>TABLE <`**`all_tables_listed_above`**`>`
		If all are empty then go to step 6; otherwise, continue.
		`>OVE;VER OFF;SEND SINK;WHILE(DEL)()`
		`>SEND PREVIOUS;FIRST` {verify '`EMPTY`'}
			APP

6	S-N	Restore the custom calling feature data to the SuperNode.
		`>LIST(MOUNT <`**`x`**`>)`
		A If LINEATTR and REM tuples were created in step 2.A., continue; otherwise, go to substep B.
		`>DMOPRO LNATTR2`
		`>DMOPRO CFW$REM`
		B Finish restoring custom calling feature data.
		`>DMOPRO CFW` {if any were dumped in step 2}
		`>DMOPRO SCALLTAB` {if any were dumped in step 2}
		`>DMOPRO RCFCLI` {if any were dumped in step 2}
		`>DMOPRO CFX` {if any were dumped in step 3}
		`>DMOPRO IBNSC` {if any were dumped in step 3}
		`>DMOPRO ACSCALL` {if any were dumped in step 3}
		C Compare the results from the NT40 dump.
			APP

Procedure 11
Switch IOCs to SuperNode

Step	Node	Action	Resp
1	NT40	Close all files going to disk that were not started by DIRP. This includes LOGUTIL, EDIT, SEND, COPY, etc. Be sure to get a hardcopy; it will be needed later. 1 `>MAPCI NODISP;MTC;IOD;LISTDEV DDU` ***Note:*** All non-DIRP files must have a ZERO in the FILES_OPEN field. 2 `>IOC <`**`a`**`>` {**a** refers to the IOC from '`LISTDEV`'} 3 `>CARD <`**`b`**`>` {**b** refers to the CARD from '`LISTDEV`'} 4 `>STATUS` 5 `>ALLOC` {if STATUS shows '`ready, online`'} 6 Repeat the substeps 2 thru 5 for each equipped DDU. 7 `>QUIT MAPCI` **- Procedure continued -**	APP

Procedure 11
Switch IOCs to SuperNode (Continued)

Step	Node	Action	Resp
2	NT40	Assign standby subsystems to IOC 0 (if not already assigned) to allow a transfer and rotate the active volume if on IOC 1 and higher.	SITE
		A If DIRP subsystem is on disk and IOC 1 and higher.	
		1 `>MAPCI;MTC;IOD;DIRP`	
		2 `>ROTATE` <**subsystem**> {**subsystem** refers to all tuples listed in table DIRPSSYS}	
		3 `>YES` {for confirmation}	
		4 Repeat substeps 2 and 3 for each subsystem on IOC 1 and higher.	
		5 `>DIRPCOPY` <**unprocessed files**>	
		or	
		5 `>DIRPAUTO` <**unprocessed files**>	
		6 Repeat substep 5 for each subsystem on IOC 1 and higher.	
		7 Verify table DIRPHOLD is empty, if applicable.	
		B If DIRP system is on tape or BMC and IOC 1 and higher.	
		`>MAPCI;MTC;IOD;DIRP`	
		`>ROTATE` <**subsystem**>	
		C If DIRP system is on DPP and IOC 1 and higher collecting AMA, retrieve settings, change firmware, and boot the standby processor if needed.	
		Note 1: Perform the following prior to 0300 site time.	
		Note 2: The **loadname** is found in the *PERIPHERAL SOFTWARE RELEASE DOCUMENT.*	
		1 Display current DPP settings to hardcopy.	BOTH
		2 `>MAPCI;MTC;IOD;DPP AMA`	
		3 `>COLLPSW` {display the COLLECTOR passwords}	
		4 `>AMATPSW` {display AMAT passwords}	
		5 `>AMAHRS` {display hour boundaries for receiving data blocks}	
		6 `>VALPARM INVALID` {display the invalid block threshold}	
		7 `>LSTDIR ALL` {display the **version** record for latter}	
		8 `>ERRMAP ACT` {display alarm assignments}	
		9 `>VS ACT` {verify firmware is DOS 21.08 and the **loadname**}	
		10 `>VS STDBY` {verify firmware is DOS 21.08 and the **loadname**}	
		Note: If the load name and firmware version are correct, go to substep 19; otherwise, continue.	

- Procedure continued -

Procedure 11
Switch IOCs to SuperNode (Continued)

Step	Node	Action	Resp

2 cont	NT40	11 Remove the cover from the top shelf of the DPP. Determine which DPP processor (A or B) is active by observing the lights on the status panel and by making sure the rocker switch corresponds to the active shelf. The left column of lights corresponds to the top shelf, which is processor A. The middle row of lights corresponds to the bottom shelf, which is processor B. The active processor is identified by a green light. Set the O/P rocker switch to O and turn the key to lock the DPP to the active processor.
		12 Verify the boot load and boot the standby processor if the firmware does not need updating.
		13 `>BOOT DELETE` {deletes the boot file name}
		14 `>BOOT LIST` {lists the load}
		15 Repeat substeps 13 and 14 until '`BOOTFILE EMPTY`' message.
		16 `>BOOT ADD` <**`loadname`**> <**`version`**> {**version** is from substep 7, '`LSTDIR ALL`'}
		Note: Do not boot. If firmware needs to be updated, go to substep 18.
		17 `>BOOT STDBY`
		18 If new firmware is required, it must be installed in the standby processor with assistance from the site.
		a Power down the standby processor by depressing the power switch on the standby power supply.
		Note: Follow anti-static precautions for this procedure.
		b Remove the memory board and replace it with the new board.
		c Power up the standby power supply and wait one minute for the DPP to boot.
		19 Close out the active DPP file if on IOC 1 and higher.
		`>MAPCI;MTC;IOD;DPP AMA`
		`>$IDXMAINT CREATE FILE AMA`
			SITE

- Procedure continued -

Procedure 11
Switch IOCs to SuperNode (Continued)

Step	Node	Action	Resp
3	NT40	Move IOC 1 and higher to SuperNode. DMNT all DIRPSSYSs that are currently assigned to IOC 1 and higher.	SITE
		1 `>MAPCI;MTC;IOD;DIRP`	
		2 `>QUERY` <**subsystem**> {**subsystem** refers to all tuples listed form table DIRPSSYS, retain for substep 9}	
		3 `>DMNT` <**subsystem**>	
		4 Repeat substeps 2 and 3 for all subsystems.	
		5 Stop all log devices on IOC 1 and higher. `BSY` and `OFFL` all devices on IOC 1 and higher. `BSY IOC; OFFL IOC` on IOC 1 and higher.	BOTH
		6 Switch IOC 1 and higher by removing connectors 'C00' and 'C01' and replacing them with the SuperNode cables. ***Note:*** Cable C00 must connect to MS1 bulk-head and cable C01 must connect to MS0 bulk-head.	INST
	S-N	7 `RTS IOC` and all devices on IOC 1 and higher.	BOTH
		8 Verify the cables to IOC 1 and higher are correct by going to the MS level, `BSY 0`, and verify the IOCs are still INSV. If not, reverse the cables. Then `RTS 0` from the MS level.	APP
		9 Assign DIRPSSYSs on IOC 1 and higher. If on disk, verify no volume '`IN ERROR`' with '`QUERY` <**subsystem**> `ALL`'.	SITE
4	S-N	If AMA is on tape or BMC.	SITE
		1 `>MOUNT` <**x**> `FORMAT` <**volume_name**>	
		2 `>DEMOUNT` <**Tx**>	
		3 `>MNT AMA` <**Tx**>	

Procedure 12
Other data verifications

Step	Node	Action	Resp

1	S-N	**A** Check for CM 119 trap, store parity message, MM (mismatch logs), and store checksum. Do not continue until all messages have been explained. The messages may mean the load is corrupted.
		`>LOGUTIL`
		`>OPEN CM;WHILE(BACK)()`
		`>OPEN MS;WHILE(BACK)()`
		`>OPEN MM;WHILE(BACK)()`
		`>TRAPINFO`
		`>QUIT`
			APP

		B If the NT40 and the SuperNode BCSs are not equal, then go to step 2; otherwise, continue.
		`>CORESWCT LIST`
		If any PMs are shown, correct their state to CBSY.
		`>CORESWCT QUERY` {verify FLAG is SET TRUE}
		If FLAG is SET FALSE:
		`>CORESWCT SET TRUE`
		`>CORESWCT QUERY` {verify FLAG is SET TRUE}	

2	BOTH	For all offices equipped with OPMs, perform the following to ensure battery charging will occur after the conversion to SuperNode.	APP
	NT40	1 `>MAPCI NODISP;MTC;PM;OPMPES` 2 `>DISP GREEN` {retain for use on the SuperNode} 3 `>DISP AMBER` {retain for use on the SuperNode} 4 `>DISP RED` {retain for use on the SuperNode} 5 `>DISP OFFL` {retain for verification on SuperNode} 6 `>QUIT ALL`	
	S-N	7 `>MAPCI;MTC;PM;OPMPES` 8 `>POST OFFL` 9 `>BSY;RTS` {if STATE was GREEN, AMBER or RED from NT40 data} 10 `>NEXT` 11 Repeat substeps 9 and 10 for all OPMs. 12 `>DISP OFFL` {verify OFFL OPMs with NT40 data} 13 `>QUIT ALL`	

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
3	BOTH	For all IPML offices the following must be performed to ensure all IPML components are inservice after the conversion.	APP
	NT40	Retain all NT40 '`InSv`' components for the SuperNode.	
		Note: '`InSv`' is a reference for all states but '`OffL`'.	
		1 `>MAPCI;MTC;PM;IPML;POST ALL` {retain the InSv IPML}	
		2 `>NEXT` {retain the InSv IPML}	
		3 Repeat substep 2 for each IPML.	
		4 `>QUIT MAPCI`	
	S-N	5 `>MAPCI;MTC;PM;IPML`	
		6 `>POST <InSv NT40 IPML>;BSY;RTS`	
		7 Repeat substep 6 for each InSv NT40 IPML.	
		8 `>QUIT MAPCI`	
4	BOTH	For all CCIS6 offices, the following must be performed to ensure all CCS6 components are inservice after the conversion.	APP
	NT40	Retain all NT40 '`InSv`' and '`IDL`' components for the SuperNode.	
		Note: '`InSv`' and '`IDL`' are references for all states but '`OffL`'.	
		1 `>TABLE C6LKSET;LIST ALL;QUIT` {retain for later}	
		2 `>MAPCI;MTC;PM;POST MSB6 ALL` {retain the InSv MSB6 number for later}	
		3 `>STC;POST ALL` {retain the InSv STC of the posted MSB6 for later}	
		4 `>NEXT` {retain the InSv STC of the posted MSB6 for later}	
		5 Repeat substep 4 for each STC in the posted set.	
		6 `>QUIT;NEXT` {retain the InSv MSB6 number for later}	
		7 Repeat substeps 1 thru 6 for each MSB6 in the posted set.	
		8 `>CCS;CCIS6;LAYER` {retain the InSv LAYERs}	
		9 `>LINKSET;POST <clli in table C6LKSET>` {retain the IDL LINKSET for later}	
		10 Repeat substep 9 for each CLLI listed from table C6LKSET.	
		11 `>QUIT MAPCI`	

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
4 cont	S-N	12 >TABLE C6LKSET;LIST ALL;QUIT {verify contents are the same as the NT40} 13 >MAPCI;MTC;PM;POST MSB6 ALL {verify MSB6 is CBSY for each InSv NT40 MSB6} 14 If the MSB6 is CBSY for each InSv NT40 MSB6, go to substep 17; otherwise, continue. 15 >BSY PM;RTS PM 16 >YES {for confirmation} 17 >STC 18 >POST <**InSv NT40 STC**>;BSY FORCE;RTS FORCE 19 Repeat substep 18 for each InSv NT40 STC in the posted set. 20 >QUIT;NEXT 21 Repeat substeps 14 through 20 for each MSB6 in the posted set. 22 >CCS;CCIS6;LAYER 23 >BSY <**y**>;RTS <**y**>;QLAYER <**y**> {**y** refers to the InSv NT40 LAYER} 24 If not 'EMERGENCY RESTART' then repeat substep 23. 25 Repeat substeps 23 and 24 for each InSv NT40 LAYER. 26 >LINKSET 27 >POST <**IDL NT40 C6LKSET**>;BSY FORCE;RTS 28 Repeat substep 27 for each IDL NT40 C6LKSET. 29 >QUIT MAPCI	APP
5	BOTH	For all CCS7 offices, the following must be performed to ensure all CCS7 components are inservice after the conversion.	APP
	NT40	Retain all NT40 'InSv' and 'IDL' components for the SuperNode. ***Note:*** 'InSv' and 'IDL' are references for all states but 'OffL'. 1 >TABLE C7LKSET;LIST ALL;QUIT {retain for later} 2 >TABLE C7RTESET;LIST ALL;QUIT {retain for later} 3 >TABLE C7LOCSSN;LIST ALL;QUIT {retain for later} 4 >TABLE C7NETSSN;LIST ALL;QUIT {retain for later} 5 >MAPCI;MTC;PM;POST MSB7 ALL {retain the InSv MSB7 number for later}	

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
5 cont	NT40	6 `>STC;POST ALL` {retain the InSv STC of the posted MSB7 for later} 7 `>NEXT` {retain the InSv STC of the posted MSB7 for later} 8 Repeat substep 7 for each STC in the posted set. 9 `>QUIT;NEXT` {retain the InSv MSB7 number for later} 10 Repeat substeps 6 through 9 for each MSB7 in the posted set. 11 `>CCS;CCS7;C7LKSET` 12 >POST C <**linkset in table C7LKSET**> {retain all InSv LK numbers for later} 13 `>NEXT` {retain all InSv LK numbers for later} 14 Repeat substep 13 until '`No more links to be viewed in the linkset`' message. 15 Repeat substeps 12 through 14 for each LINKSET listed from table C7LKSET. 16 `>C7RTESET` 17 >POST C <**routeset in table C7RTESET**> {retain the InSv RTE for later} 18 Repeat substep 19 for each ROUTESET listed from table C7RTESET. 19 `>SCCPLOC;POST ALL` {retain each InSv SubSystem and Instance-0 to 31 for later} 20 `>NEXT` {retain each InSv SubSystem and Instance-0 to 31 for later} 21 Repeat substep 20 until '`End of posted set`' message. 22 `>SCCPRPC` 23 >POST <**pcname in table C7NETSSN**> {retain the InSv POINTCODE for later} 24 `>SCCPRSS;POST ALL` {retain each InSv SubSystem of the posted POINTCODE} 25 `>NEXT` {retain each InSv SubSystem of the posted POINTCODE} 26 Repeat substep 25 until 'End of posted set' message. 27 `>QUIT` 28 Repeat substeps 23 through 27 for each PCNAME listed from table C7NETSSN.	APP

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
5 cont	S-N	29 >TABLE C7LKSET;LIST ALL;QUIT {verify contents are the same as the NT40} 30 >TABLE C7RTESET;LIST ALL;QUIT {verify contents are the same as the NT40} 31 >TABLE C7LOCSSN;LIST ALL;QUIT {verify contents are the same as the NT40} 32 >TABLE C7NETSSN;LIST ALL;QUIT {verify contents are the same as the NT40} 33 >MAPCI;MTC;PM;POST MSB7 ALL {verify MSB7 is CBSY for each InSv NT40 MSB7} 34 If the MSB7 is CBSY for each InSv NT40 MSB7, go to substep 37; otherwise, continue. 35 >BSY PM;RTS PM 36 >YES {for confirmation} 37 >STC 38 >POST <**InSv NT40 STC**>;BSY;RTS 39 Repeat substep 38 for each InSv NT40 STC. 40 >QUIT;NEXT 41 Repeat substeps 34 through 40 for each InSv NT40 MSB7 in the posted set. 42 >CCS;CCS7;C7LKSET 43 >POST C <**InSv NT40 LINKSET**> 44 >BSY <**InSv NT40 LK number**> 45 >ACT <**InSv NT40 LK number**> {disregard message 'Link #: Failed, unable to seize a transmission link'} 46 >RTS <**InSv NT40 LK number**> 47 Repeat substeps 44 through 46 for each InSv NT40 LK in the posted set. 48 >NEXT 49 Repeat substeps 44 through 48 until 'No more links to be viewed in the linkset' message. 50 Repeat substeps 43 through 49 for each InSv NT40 LK. 51 >C7RTESET 52 >POST C <**InSv NT40 RTE**>;BSY;RTS 53 Repeat substep 52 for each InSv NT40 RTE. 54 >SCCPLOC;POST ALL	APP

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
5 cont	S-N	***Note:*** Substeps 55 and 56 are shown on two lines connected by an '↵', but will be able to be input on a single command line.	APP
		55 `>BSY` **<InSv NT40 SubSystem>** ↵ **<NT40 InSv Instance-0 to 31>**	
		56 `>RTS` **<InSv NT40 SubSystem>** ↵ **<NT40 InSv Instance-0 to 31>**	
		57 Repeat substeps 55 and 56 for each InSv NT40 SubSystem and Instance.	
		58 `>NEXT`	
		59 Repeat substeps 55 through 58 until '`End of posted set`' message.	
		60 `>SCCPRPC`	
		61 `>POST` **<InSv NT40 POINTCODE>**`;BSY;RTS`	
		62 `>SCCPRSS;POST ALL`	
		63 `>BSY` **<InSv NT40 SubSystem>**	
		64 `>RTS` **<InSv NT40 SubSystem>**	
		65 Repeat substeps 63 and 64 for each InSv NT40 SubSystem.	
		66 `>NEXT`	
		67 Repeat substeps 63 through 66 until '`End of posted set`' message.	
		68 `>QUIT`	
		69 Repeat substeps 61 through 68 for each InSv NT40 POINTCODE.	
6	BOTH	For all ISDN-IAC offices, the following must be performed to ensure all ISDN-IAC components are inservice after the conversion.	APP
	NT40	Retain all NT40 '`InSv`' components for the SuperNode.	
		Note: '`InSv`' is a reference for all states but '`OffL`'.	
		1 `>MAPCI;MTC;PM;POST IAC ALL` {retain the InSv IAC number for later}	
		2 `>STC;POST ALL` {retain the InSv STC of the posted IAC for later}	
		3 `>NEXT` {retain the InSv STC of the posted IAC for later}	
		4 Repeat substep 3 for each STC in the posted set.	
		5 `>QUIT;NEXT` {retain the InSv IAC number for later}	
		6 Repeat substeps 2 through 5 for each IAC in the posted set.	
		7 `>QUIT MAPCI`	
	S-N	8 `>MAPCI;MTC;PM;POST IAC ALL` {verify IAC is CBSY for each InSv NT40 IAC}	

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
6 cont	S-N	9 If the IAC is CBSY for each InSv NT40 IAC, go to substep 12; otherwise, continue. 10 >BSY PM;RTS PM 11 >YES {for confirmation} 12 >STC 13 >POST <**InSv NT40 STC**>;BSY FORCE;RTS FORCE 14 Repeat substep 13 for each InSv NT40 STC in the posted set. 15 >QUIT;NEXT 16 Repeat substeps 9 through 15 for each InSv NT40 IAC in the posted set. 17 >QUIT MAPCI	APP
7	BOTH	For all ISDN-LTCI/LGCI offices, the following must be performed to ensure all ISDN-LTCI/LGCI components are inservice after the conversion.	APP
	NT40	Retain all NT40 'InSv' components for the SuperNode. ***Note 1:*** 'InSv' is a reference for all states but 'OffL'. ***Note 2:*** 'PMI' is used a reference for 'LGCI' or 'LTCI'. 1 >MAPCI;MTC;PM 2 >POST LGCI ALL LTCI ALL {retain the InSv PMI number for later} 3 If 'No PM posted' message, continue; otherwise go to substep 5. 4 >NEXT 5 >DCH;POST ALL {retain the InSv DCH of the posted PMI for later} 6 >NEXT {retain the InSv DCH of the posted PMI for later} 7 Repeat substep 6 for each DCH in the posted set until 'End of Post Set' message. 8 >ISG;POST ALL {retain all InSv ISG ports of the posted PMI for later} 9 >NEXT {retain all InSv ISG ports of the posted PMI for later} 10 Repeat substep 9 for each ISG in the posted set until 'End of postset' message. 11 >QUIT;NEXT {retain the InSv PMI number for later} 12 Repeat substeps 3 through 11 for each PMI in the posted set until 'End of post set' message. 13 >QUIT MAPCI	

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
7 cont	S-N	14 >MAPCI;MTC;PM 15 >POST LGCI ALL LTCI ALL	APP
		16 If 'No PM posted' message, continue; otherwise, go to substep 18.	
		17 >NEXT	
		18 If the PMI is CBSY for each InSv NT40 PMI, go to substep 21; otherwise, continue.	
		19 >BSY PM;RTS PM 20 >YES {for confirmation}	
		21 >DCH 22 >POST <**InSv NT40 DCH**>;BSY;RTS	
		23 Repeat substep 22 for each InSv NT40 DCH of the posted PMI.	
		24 >ISG 25 >POST <**InSv NT40 ISG**> 26 >BSY <**InSv NT40 CHNL**>	
		27 Repeat substep 26 for each InSv NT40 CHNL of the posted ISG.	
		28 Repeat substeps 25 through 27 for each InSv NT40 ISG of the posted PMI.	
		29 >QUIT;NEXT	
		30 Repeat substeps 16 through 29 for each InSv NT40 PMI in the posted set.	
		31 >QUIT MAPCI	
8	NT40	For all ISDN-LCMI offices, the following must be performed to ensure all ISDN-LCMI components are inservice after the conversion.	APP
		1 >MAPCI;MTC;PM	
		2 >POST LCMI ALL {retain the InSv LCMI number and drawers for later}	
		3 If 'Failed to create Post set' message is output, this workaround is complete; otherwise, continue.	
		4 >NEXT {retain the InSv LCMI number and drawers for later}	
		5 Repeat substep 4 for each LCMI in the posted set until 'End of postset' message.	
		6 >QUIT MAPCI	
	S-N	1 >MAPCI;MTC;PM	
		2 >POST LCMI ALL	
		3 If 'Failed to create Post set' message is output, this workaround is complete (LCMI feature was dropped); otherwise, continue.	
		4 If the LCMI is CBSY for the InSv NT40 LCMI, go to substep 6; otherwise, continue.	

- Procedure continued -

Procedure 12
Other data verifications (Continued)

Step	Node	Action	Resp
		5 `>BSY PM;RTS PM` 6 If the LCMI drawer is InSv for the InSv NT40 LCMI drawer, go to substep 9; otherwise, continue. 7 `>BSY DRWR <InSv NT40 DRAWER>;RTS DRWR <InSv NT40 DRAWER>` 8 Repeat substep 7 for each InSv NT40 LCMI drawer. 9 `>NEXT` 10 Repeat substeps 4 through 9 for each LCMI in the posted set until 'End of postset' message. 11 `>QUIT MAPCI`	
9	S-N	Update TABLE SYNCLK if SLAVE configuration is used.	APP

	BOTH
	BOTH
	S-N
		`>TABLE SYNCLK`
		`>LIST`
		`>CHANGE` {all information will be the same except '`MASTERINT`'}
		
		Note: Get the external timing link information from the NT40 load (i.e. LK0PTYP, LK0PNUM, LK0CCT, LK0REG, LK1PTYP, L K1PNUM, LK1CCT, and LK1REG).(e.g. `>CHANGE 2 STRAT3 SLAVE DTC 0 0 0 DTC 2 2 1` or `>CHANGE 2 STRAT2 NT3X16AA IOE 2 4 7 A 8 ↵ SLAVE DTC 0 0 0 DTC 2 0 1`)	

10	S-N	If office is not equipped with DDUs, prepare for later use by placing the new BCS PM load tape on a tape drive at load point and online.	SITE
11	S-N	Remove parallel tape devices. 1 `>MAPCI;MTC;IOD;DIRP` 2 `>CLOSE <`**`subsystem`**`> PARALEL` 3 Repeat substep 2 for each parallel tape device. 4 `>QUIT MAPCI` 5 `>TABLE DIRPSSYS` 6 `>POS <`**`subsystem`**`>` 7 `>CHANGE PARVOL $` 8 `>Y` {for confirmation} Repeat substeps 6 thru 8 for each parallel tape device. `>QUIT`	SITE

Convert to SuperNode procedure

Warnings

Do not proceed until on-line support agrees.

Using the LTP and TTP levels of the MAP and TOPS operator(s), verify all essential services or high profile customers (i.e. police and emergency bureaus, hospitals, and radio stations) are not in emergency call processing mode.

Ensure step one is not performed during periodic tests. Work quickly to minimize downtime once step one is performed. Call processing ceases until step one is complete.

Installation throws the Master Switchboxes only when the applicator informs him to do so.

No activity is to be performed on either MS or CLOCK until it is cleared by the applicator. Failure to comply may result in a system restart.

All personnel must be aware of their tasks.

Procedure 13
Convert to SuperNode

Step	Node	Action	Resp
1	NT40	**A** Post the CMC level of the MAP to ensure all links go 'S' (SYSB) once the master switches are thrown (this may take some time depending on the office size).	APP
	MSBX	**B** Verify the master switchboxes are powered up, the 'CMC' LED is 'ON', and the 'DISC' LED is 'OFF'.	INST
	RSBX	**C** Verify the 'LOC' LED is 'OFF' at all the remote switchboxes and confirm information to the applicator. ***Note:*** If any 'LOC' LEDs are 'ON', the remote switchbox may be defective and must be replaced.	INST
	RSBX	**D** Once all the 'LOC' LEDs are confirmed 'OFF' at all remote switchboxes, installation throws the switch from the 'CMC' position to the 'MS' position.	INST
	S-N	**E** If the NT40 and the SuperNode BCSs are equal, continue; otherwise, go to substep F. `>RESTART COLD`	APP

	S-N	**F** If the NT40 and the SuperNode BCSs are not equal.
		`>RESTART RELOAD`
		`>YES`
			APP

	MSBX	**G** Applicator confirms to installation to throw the master switches from the 'CMC' position to the 'MS' position.	APP INST

- Procedure continued -

Procedure 13
Convert to SuperNode (Continued)

Step	Node	Action	Resp
1 cont	MSBX	**H** Installation confirms to the applicator that the 'CMC' LED is 'OFF' and the 'MS' LED is 'ON' all the master switchboxes.	INST
	S-N	**I** Ensure the SuperNode is flashing 'A1' within 5 minutes.	INST
2	S-N	**A** LOGIN to the SuperNode.	BOTH
		B Confirm date and time. >DATE	SITE
3	S-N	**A** If DPP was loaded in *Switch to SuperNode*, it will have to SWACT to the new load; otherwise, go to substep B. >MAPCI;MTC;IOD;DPP AMA Set A/B rocker switch to the position which corresponds to the standby processor. Ensure the O/P rocker switch is set to O and turn the key to force the DPP to SWACT. Wait until initialization messages to appear at the MAP. >VS ACT {new load version is displayed} >DIRP >MOUNT <**x**> FORMAT DPPAMA >DEMOUNT <**Tx**> >MNT AMA <**Tx**>	SITE
		B Confirm all DIRP subsystems are incrementing and audit to remove the EMG indicators. 1 >MAPCI;MTC;IOD;DIRP;QUERY <**subsystem**> 2 >AUDIT <**subsystem**> 3 >YES {for confirmation} 4 Repeat substeps 2 and 3 for all DIRP subsystems. ***Note:*** If any DIRP subsystems are not available, MNT at DIRP or manually change table DIRPPOOL.	APP
		5 If the DATA DUMP field in the table CRSFMT is set to Y for SMDR, an additional rotate must be performed in order for the identifier translator tables to be dumped to the SMDR records.	SITE
4	S-N	Go to the NET level of the MAP and verify that all networks are in service. 1 >NET 2 >BSY <**plane**> <**pair**>;RTS <**plane**> <**pair**> {for network planes not INSV } 3 Repeat substep 2 for each network plane not INSV.	APP
5	S-N	**A** List the device containing the new BCS PM loads. (i.e. DSKUT;LISTVOL <**pm_load_volume**> ALL;QUIT) >PM	BOTH

- Procedure continued -

Procedure 13
Convert to SuperNode (Continued)

Step	Node	Action	Resp
5 cont	S-N	**B** For all SYSB PMs not under 'Maintenance'. (After 5 minutes for host PMs and 10 minutes for remote PMs.) 1 >POST SYSB 2 >RTS UNIT <**nn**> {**nn** refers to the active unit} or 2 >RTS UNIT <**nn**>;RTS UNIT <**nn**> FORCE NOWAIT {**nn** refers to the active unit} 3 >NEXT 4 Repeat the substeps 2 and 3 as required.	BOTH
		C For all MANB PMs. 1 >POST MANB 2 >LOADPM UNIT <**nn**> {**nn** refers to the active unit} or 2 >LOADPM UNIT <**nn**> CC NOWAIT {**nn** refers to the active unit} 3 >RTS UNIT <**nn**> {**nn** refers to the active unit} or 3 >RTS UNIT <**nn**>;RTS UNIT <**nn**> FORCE NOWAIT {**nn** refers to the active unit} 4 >NEXT 5 Repeat the substeps 2 thru 4 as required.	
		D When all PMs are INSV or ISTB, post the XPMs which were put in-service in substeps B and C and repeat B and C using the other unit.	
6	S-N	**A** Go to the CARRIER level and confirm circuits are in proper states according to NT40 data.	APP
		B Verify log systems have started or start them manually.	SITE
7	S-N	**A** Correct trunk states. 1 >MAPCI;MTC;TRKS;TTP 2 >POST A INI 3 >SEND SINK 4 >REPEAT 100(BSY;RTS;NEXT) 5 Repeat substep 4 until no more trunks are posted. 6 >QUIT MAPCI 7 >MAPCI NODISP;MTC;TRKS;TTP 8 >READ MBTRK 9 >READ RESTRK 10 >SEND PREVIOUS	APP
		B Update PECS6X45 in XPM Inventory tables (IACINV, LTCINV, RCCINV, TACINV and CSCINV) on InSv XPMs only; SYSB, MANB, OFFL, and CBSY will have to be changed manually. >PECS6X45 >PEC6X45 {offices with table XEASINV datafilled}	

- Procedure continued -

Procedure 13
Convert to SuperNode (Continued)

Step	Node	Action	Resp
8	S-N	**A** Confirm the special reports match. `>LOGUTIL;LISTREPS SPECIAL` Correct the reports which do not match from the NT40 ACTTO file. ***Note:*** Be sure to differentiate between reports that are only for the NT40 (i.e. CC, CMC, etc.) and those that are only for SuperNode (i.e. CM, MS, etc.).	BOTH
		B Confirm DTDETECT status. 1 `>DTDETECT;DTSTATUS` 2 `>START` {if started from earlier} or 2 `>STOP` {if stopped from earlier} 3 `>QUIT`	
9	S-N	**A** Ensure attendant consoles (ATTCONS) are in service. If any are not in-service: 1 `>MAPCI NODISP;MTC;LNS;LTP;LEVEL IBNCON` 2 `>SELECT C` **`n`**`;BSY;RTS` {**n** is console number} 3 Repeat substep 2 until all consoles are in service.	BOTH
		B Update table PMLOADS with the correct device name.	APP
10	S-N	Check for dial tone on all LMs, RLMs, LCMs, and RLCMs.	SITE
11	S-N	**A** Check AMAB logs in conjunction with all test calls for verification of the call duration time.	SITE
		B Execute *Critical call processing tests* (keeping record of the call duration) identified in *Post-BCS test scripts*, *Appendix B*, (to be completed within the first thirty minutes after the conversion).	
		C Execute *AMA verification tests* immediately after the *Critical call processing tests* in *Post-BCS test scripts*, *Appendix B*.	
		D If aborting becomes necessary due to critical test failures, revert to the old load by following *Revert to NT40* procedure; otherwise, continue.	ALL
12	S-N	**A** Start journal file per NTP 297-1001-127.	SITE
		B Execute *Metering verification tests* identified in *Post-BCS test scripts*, *Appendix B*, (to be completed within two hours after the conversion).	
		C Execute *Critical feature tests* identified in *Post-BCS test scripts*, *Appendix B*, (to be completed within two hours after the conversion).	
		D Execute *Non-critical tests* identified in *Post-BCS test scripts*, *Appendix B*, (to be completed within six hours after the conversion).	

Procedure 14
Post conversion

Step	Node	Action	Resp
1	S-N	Update all XPM patches in PATCHER. **A** List the device on which the XPM patches are stored. **B** Verify the XPMs have their patches updated in PATCHER. 1 `>PATCHER` 2 `>MATCHALL` or 2 `>MATCH` <**xpm**> <**number**> <**unit**> {BCS28} or 2 >MATCHALL XPM {BCS29 and higher} **C** If any mismatches occur: 1 `>MATCHALL UPDATE` or 2 `>MATCH` <**xpm**> <**number**> <**unit**> `UPDATE` {BCS28} 3 `>LEAVE`	APP
2	S-N	Verify all circuits that were INB, MB, or RES from the NT40.	SITE
3	S-N	POST all the XPMs to update the WARMSWACT status. 1 `>POST` <**xpm**> `ALL` {**xpm** refers to LTC, LGC, DTC, SMR, SMS, SMU, RCC, etc.} 2 `>WARMSWACT OFF` 3 `>WARMSWACT ON` 4 `>YES` 5 `>NEXT` 6 Repeat substeps 2 thru 5 for the XPM post set. 7 Repeat substeps 1 thru 6 for each type of XPM.	BOTH

4	S-N	At the CLOCK MAP LEVEL, verify both CLOCKs are INSV.
		Note: Verify all PMs are INSV and ten (10) minutes have passed since the conversion.
		`>MAPCI;MTC;MS;CLOCK`
		If the clock is STRAT3, sync the master clock.
		`>SYNC` <**0** or **1**> {whichever is MASTER}
		If the clock is STRAT2, adjust to mid-range and sync.
		`>ADJUST` <**+** or **-**> {whichever is needed}
		`>SYNC` <**0** or **1**> {whichever is MASTER}
		`>QUIT MAPCI`
			APP

5	S-N	**A** Sync the CM if a RESTART RELOAD was used in *Convert to SuperNode*, step 1.
		`>MAPCI;MTC;CM;SYNC`
		`>QUIT MAPCI`
			APP

- Procedure continued -

Procedure 14
Post conversion (Continued)

Step	Node	Action	Resp
		B Let the SuperNode soak for at least one hour while logs are monitored for any abnormal printouts before taking images.	BOTH

6	S-N	**A** If NTX077AA is present, verify table DSLIMIT, tuple STOREFS, is set to 458752; otherwise, go to substep B.
		`>TABLE DSLIMIT`
		`>RWOK ON;OVE;VER OFF`
		`>POS STOREFS`
		`>CHA DSMAX 458752`
		`>RWOK OFF;QUIT`
			APP

		B If NTX077AA is not in present, erase all PMLOAD files from SFDEV and other unwanted files.
		`>TABLE DSLIMIT`
		`>RWOK ON;OVE;VER OFF`
		`>POS STOREFS`
		`>CHA DSMAX 65536`
		`>RWOK OFF;QUIT`	

7	S-N	**A** Change OFCVAR and AMAOPTS for AMA, SMDR and CDR back to the value found on list of tables taken by ACTTO file from NT40 data.
		`>TABLE OFCVAR`
		`>REP SPECIAL_AMA_REPORT` <**NT40 value**>
		`>REP SMDR_LOG_RPT` <**NT40 value**>
		`>REP CDR_ENABLE_LOG_ALL` <**NT40 value**>
		`>QUIT`
		and/or (if applicable)
		`>TABLE AMAOPTS`
		`>REP LOGAMA` <**NT40 value**>
		`>QUIT`
			APP

		B Change tuple NODEREXCONTROL in table OFCVAR back to the value found from *Preliminary phase*. Be sure the real time is past the values found in *Preliminary phase*.	
8	S-N	Erase all dump and restore, and conversion files from SFDEV.	APP
9	S-N	If major problems cannot be solved during this shift, go to *Revert to NT40* procedure.	BOTH
10	S-N	When site and applicator agree all tests passed satisfactorily:	BOTH
	NT40	**A** Set MINFILES to 0 (zero) for all subsystems. 1 `>TABLE OFCSTD;RWOK ON;OVE;VER OFF` 2 `>REP DIRPKILL_IN_EFFECT Y` 3 `>RWOK OFF` 4 `>TABLE DIRPSSYS;OVE;VER OFF` 5 `>CHANGE MINFILES 0;DOWN` 6 Repeat substep 5 until '`Bottom`' message. 7 `>QUIT`	

- Procedure continued -

Procedure 14
Post conversion (Continued)

Step	Node	Action	Resp
10 cont	NT40	**B** Close, dirpcopy, and demount all subsystems.	SITE
		1 `>MAPCI;MTC;IOD;DIRP` 2 `>CLOSE` **`<subsystem>`** `ACTIVE`	
		3 Repeat substep 2 for DIRP subsystems.	
		4 `>DIRPAUTO` <**all unprocessed files**>	
		or	
		4 `>DIRPCOPY` <**all unprocessed files**>	
		5 Repeat substep 4 for all unprocessed files.	
		6 `>DMNT` **`<subsystem>`** {retain for later}	
		7 Repeat substep 6 for all DIRP subsystems.	
		8 BSY and OFFL unneeded devices on IOC 0 except CARD 1 (MTD) and CARD 2 (terminal controllers).	BOTH
	BOTH	9 Switch the CIOC with IOC 0.	INST
	S-N	10 RTS any device not INSV; then mount subsystems.	BOTH
11	S-N	If DIRP subsystem is on disk.	SITE
		1 `>MAPCI;MTC;IOD;DIRP` 2 `>MNT` **`<subsystem>`** **`<disk>`** {subsystems from step 10.B.6}	
		3 Repeat substep 2 for all DIRP subsystems on disk.	
12	S-N	If DIRP subsystem is on tape or BMC.	SITE
		1 `>MOUNT` **`<x>`** `FORMAT` **`<volume_name>`** 2 `>DEMOUNT` **`<Tx>`** 3 `>MAPCI;MTC;IOD;DIRP` 4 `>MNT` **`<subsystem>`** **`<Tx>`** {subsystems from step 10.B.6}	
		5 Repeat substep 4 for all DIRP subsystems.	

- Procedure continued -

Procedure 14
Post conversion (Continued)

Step	Node	Action	Resp
13	S-N	If DIRP subsystem is on DPP. Offices equipped with DPP collecting AMA, retrieve DPP settings (change if required), change firmware if needed, boot the standby processor if needed, and put the DPP back into prime mode. Display current DPP settings to hardcopy and change if different from *Switch IOCs to SuperNode*, steps 2.C.1 thru 2.C.10. 1 `>MAPCI;MTC;IOD;DPP AMA` 2 `>COLLPSW` If different, perform substeps 3 and 4; otherwise go to substep 5. 3 `>COLLPSW 1` <**4_digits**> <**6_digits**> 4 `>COLLPSW 2` <**4_digits**> <**6_digits**> 5 `>AMATPSW` If different, perform substep 6; otherwise, go to substep 7. 6 `>AMATPSW` <**4_digits**> <**6_digits**> 7 `>AMAHRS` If different, perform substep 8; otherwise, go to substep 9. 8 `>AMAHRS` <**start_hour**> <**end_hour**> 9 `>VALPARM INVALID` If different, perform substep 10; otherwise, go to substep 11. 10 `>VALPARM INVALID` <**threshold**> 11 `>ERRMAP ACT` If different, perform substeps 12 and 13; otherwise, go to substep 14. 12 `>ERRMAP` <**alarm_no**> <**type**> <**level**> 13 Repeat substep 12 for each alarm that is different. 14 `>VS STDBY` {verify the firmware is DOS 21.08 and the **loadname**} ***Note 1:*** The **loadname** is found in the *PERIPHERAL SOFTWARE RELEASE DOCUMENT.* ***Note 2:*** If the **loadname** and firmware version are correct, go to substep 21; otherwise, continue. 15 `>BOOT DELETE` {deletes the boot file name} 16 `>BOOT LIST` {lists the load} 17 Repeat substep 15 and 16 until '`BOOTFILE EMPTY`' message. **- Procedure continued -**	BOTH SITE (substeps 15–17)

Procedure 14
Post conversion (Continued)

Step	Node	Action	Resp

13 cont	S-N	18 `>BOOT ADD <`**`loadname`**`> <`**`version`**`>`
		{**loadname** is the new DPP loadname and **version** is from *Switch IOCs Switch IOCs to SuperNode*, step 2.C.7}
		
		Note: Do not boot. If firmware needs to be updated, go to substep 20; otherwise, continue.
		
		19 `>BOOT STDBY`
		20 If new firmware is required, it must be installed in the standby processor with assistance from the site; otherwise go to substep 21.
		a Power down the standby processor by depressing the power switch on the standby power supply.
		
		Note: Follow anti-static precautions for this procedure.
		
		b Remove the memory board and replace it with the new board.
		c Power up the standby power supply and wait one minute for the DPP to boot.
		21 Change the load name in table DPP.
		`>DSKUT;LISTVOL <`**`pm_load_volume`**`> ALL;QUIT`
		`>TABLE DPP;OVE;VER OFF;`
		`>CHA DPPDNLD <`**`loadname`**`>;QUIT`
		22 Put the DPP in PRIME mode.
		Set the A/B rocker switch on the status panel to correspond with the active processor. Set the O/P rocker switch to P and turn the key to lock the DPP in prime mode. Wait about one minute for the alarms to clear and put the cover on.
			SITE

14	S-N	Close all DIRP standby subsystems to clear the '`I`' alarm under the IOD banner of the MAP. 1 `>CLOSE <`**`subsystem`**`> STDBY1` 2 Repeat substep 1 for all DIRP subsystems. 3 `>QUIT MAPCI`	BOTH
15	S-N	**A** Connect E2A to SuperNode (reference IM925, section 5935) by disconnecting the XS cable from the XT cable and connecting it to the XU cable. **B** Transfer interbay alarm cables from the NT40 to SuperNode.	INST

- Procedure continued -

Procedure 14
Post conversion (Continued)

Step	Node	Action	Resp
16	S-N	Offices equipped with MPC boards and feature NTX273AA. **A** List the device which contains the MPC peripheral load. **B** Access table MPC and replace all tuples in order to bind the load name to the FID. 1 `>TABLE MPC;OVE` 2 `>CHANGE` 3 `>`**`<cr>`** 4 Repeat substep 3 until 'Tuple to be changed' message. 5 `>Y` {for confirmation} 6 `>DOWN` 7 Repeat substeps 2 through 6 until '`Bottom`' message.	APP
17	S-N	**A** Mount the AMA tape as a regular tape and use the AMADUMP to verify the AMA entries on site (reference NTP 297-1001-119N section 9). For contingency action, use ADUMP from the TAS NON-RES. **B** For CDR verification, use command `>CDRDUMP <`**`filename`**`> <`**`format`**`>` {**format** is HEX, EBCDIC, or ASCII}	SITE

18	S-N	If parallel subsystems were assigned.
		`>TABLE DIRPSSYS;POS <`**`ssysname`**`>`
		`>CHANGE PARVOL <`**`volname`**`>` {from *Preliminary phase*, step 7.A.1}
		`>QUIT ALL`
			SITE

19	S-N	If table DIRPSSYS was changed in *NT40 office image capture*, step 6, change to the original datafill; otherwise, go to step 20.	SITE
20	S-N	Restore files to SFDEV.	SITE
21	S-N	Dump two images, one to each SLM disk and backup file to SLM tape or dump two images to disk or tape. (Reference IM925-5620).	SITE
22	S-N	**A** Send logs to tape for 24 hours and retain on site for 2 weeks. **B** Update the software change control log.	SITE
23	S-N	Leave data line up with logs running for monitor.	APP

Revert to NT40 procedure

Warnings

When *Revert to NT40* must be done, confer with online support for possible changes to the procedure to minimize the system outage.

Using the LTP and TTP levels of the MAP, and TOPS operator(s), verify all essential services or high profile customers (i.e. police and emergency bureaus, hospitals, and radio stations) are not in emergency call processing mode.

Ensure step five is not performed during periodic tests. Work quickly to minimize downtime once step five is performed. Call processing ceases until step five is complete.

Installation throws the master switchboxes only when the applicator confirms to do so.

No activity is to be performed on either CMC or CLOCK until it is cleared by the applicator. Failure to comply may result in a system restart.

All personnel must be aware of their tasks.

Procedure 15
Revert to NT40

Step	Node	Action	Resp
1	S-N	Perform manual DIRP subsystem transfers and remove subsystem tape or close the active file on disk. 1 `>MAPCI;MTC;IOD;DIRP` 2 `>ROTATE` <**subsystem**> 3 `>YES` {for confirmation} 4 Repeat substeps 2 and 3 for each DIRP subsystem. 5 `>DIRPAUTO` <**all unprocessed files**> or 5 `>DIRPCOPY` <**all unprocessed files**> 6 Repeat substep 5 for each DIRP subsystem.	SITE

2	NT40	Perform a RESTART RELOAD on the NT40.
		`>RESTART RELOAD`
		`>YES`
			APP

3	NT40	LOGIN the NT40 and DMNT; then MNT all dead subsystems at the DIRP level of the MAP.	APP
4	NT40	BSY all NETWORK modules. `>MAPCI;MTC;NET;BSY` <**plane**> <**pair**> Repeat step 4 for all network modules.	APP

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp
5	BOTH	Revert to the NT40.	ALL
	S-N	**A** Post SHELF 0 level of the MAP to ensure all PORTS go 'S' (SYSB) once the master switches are thrown (this may take some time depending on the office size).	APP
	MSBX	**B** Verify the 'MS' LED is 'ON' and the 'DISC' LED is 'OFF' at the master switchboxes.	INST
	RSBX	**C** Verify the 'LOC' LED is 'OFF' at all the remote switchboxes, and confirm to the applicator. ***Note:*** If any 'LOC' LEDs are 'ON', the remote switchbox may be defective and must be replaced.	
	RSBX	**D** Once all the 'LOC' LEDs are confirmed 'OFF' at all remote switchboxes, installation throws the switch from the 'MS' position to the 'CMC' position.	INST

6	NT40	**A** If the NT40 and the SuperNode BCSs are equal, continue; otherwise, go to substep B.
		`>RESTART COLD`
		`>YES`
			APP

	NT40	**B** If the NT40 and the SuperNode BCSs are not equal.
		`>RESTART RELOAD`
		`>YES`
			APP

	MSBX	**C** Applicator confirms to installation to throw the master switchboxes from the 'MS' position to the 'CMC' position.	INST
	MSBX	**D** Installation confirms to the applicator that the 'MS' LED goes 'OFF' and the 'CMC' LED is 'ON' all the master switchboxes.	INST
	NT40	**E** Ensure the NT40 is flashing 'A1' within 5 minutes.	INST
7	NT40	**A** LOGIN to the NT40.	ALL
		B Confirms the date and time. `>DATE`	SITE

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp

8	NT40	**A** If DPP was loaded in *Switch to SuperNode*, it will have to SWACT back to the old load; otherwise, go to substep B.
		`>MAPCI;MTC;IOD;DPP AMA`
		Set A/B rocker switch to the position which corresponds to the standby processor. Ensure the O/P rocker switch is set to O and turn the key to force the DPP to SWACT. Wait until initialization messages to appear at the MAP.
		`>VS ACT` {old load version is displayed}
		`>DIRP`
		>MOUNT <**x**> FORMAT DPPAMA
		>DEMOUNT <**Tx**>
		>MNT AMA <**Tx**>
			SITE

	NT40	**B** Confirm all DIRP subsystems are incrementing and audit to remove the EMG indicators. 1 >MAPCI;MTC;IOD;DIRP;QUERY <**subsystem**> 2 >AUDIT <**subsystem**> 3 >YES {for confirmation} 4 Repeat substeps 2 and 3 for all DIRP subsystems. ***Note:*** If any DIRP subsystems are not available, use MNT.	APP
		5 If the DATA DUMP field in the table CRSFMT is set to Y for SMDR, an additional rotate must be performed in order for the identifier translator tables to be dumped to the SMDR records.	SITE
9	NT40	Go to the NET level of the MAP and verify that all networks are in service. 1 >NET 2 >BSY <**plane**> <**pair**>;RTS <**plane**> <**pair**> {for network planes not INSV} 3 Repeat substep 2 for each network plane not INSV.	APP

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp
10	NT40	**A** List the device containing the new BCS PM loads. `>PM` **B** For all SYSB PMs not under 'Maintenance'. 1 `>POST SYSB` 2 `>RTS UNIT <`**nn**`>` {**nn** refers to the ACTIVE unit} or 2 `>BSY UNIT <`**nn**`>;RTS UNIT <`**nn**`> FORCE NOWAIT` {**nn** refers to the ACTIVE unit} 3 `>NEXT` 4 Repeat substeps 2 and 3 as required. **C** For all MANB PMs. 1 `>POST MANB` 2 `>LOADPM UNIT <`**nn**`> CC` {**nn** refers to the ACTIVE unit} or 2 `>LOADPM UNIT <`**nn**`> CC NOWAIT` {**nn** refers to the ACTIVE unit} 3 `>RTS UNIT <`**nn**`>` {**nn** refers to the ACTIVE unit} or 3 `>RTS UNIT <`**nn**`> FORCE NOWAIT` {**nn** refers to the ACTIVE unit} 4 `>NEXT` 5 Repeat substeps 2 thru 4 as required. **D** When all PMs are INSV or ISTB, post the XPMs which were put in-service in substeps B and C and repeat B and C using the other unit.	BOTH

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp
11	NT40	**A** Go to the CARRIER level and confirm circuits are in proper states according to NT40 data.	APP
		B Verify log systems have started or start them manually.	
12	NT40	Correct trunk states. 1 `>MAPCI;MTC;TRKS;TTP` 2 `>POST A INI` 3 `>SEND SINK` 4 `>REPEAT 100(BSY;RTS;NEXT)` 5 Repeat substep 4 until no more trunks are posted. 6 `>QUIT MAPCI` 7 `>MAPCI NODISP;MTC;TRKS;TTP` 8 `>READ MBTRK` 9 `>READ RESTRK` 10 `>SEND PREVIOUS`	APP
13	NT40	Ensure attendant consoles (ATTCONS) are in service. If any are not in service 1 `>MAPCI NODISP;MTC;LNS;LTP;LEVEL IBNCON` 2 >SELECT C <**n**>;BSY;RTS {**n** is console number} 3 Repeat substep 2 until all consoles are in service.	BOTH
14	NT40	**A** Check for dial tone on all LMs, RLMs, LCMs, or RLCMs.	SITE
		B Execute critical call processing tests.	
15	NT40	Start journal file per NTP 297-1001-127.	SITE
16	NT40	**A** At the CMC level of MAP, ensure both CMCs show status of '.' .	APP

		B Go to SYNCLK level and sync the clocks.
		`>MAPCI;MTC;CMC;SYNCLK;SYNC 0;SYNC 1`
		`>QUIT MAPCI`	

17	NT40	Sync the CC if a RESTART RELOAD was used in step 5.B. 1 `>MAPCI;MTC;CC;SYNC` 2 `>QUIT MAPCI` 3 `>RWOK OFF` 4 `>TABLE DIRPSSYS;OVE;VER OFF` 5 `>CHANGE MINFILES 0;DOWN` 6 Repeat substep 5 until 'Bottom' message. 7 `>QUIT`	APP
18	BOTH	Move IOC 1 and higher to the NT40.	APP
	S-N	**A** Set MINIFILES to 0 (zero) for all subsystems. 1 `>TABLE OFCSTD; RWOK ON; OVE; VER OFF` 2 `>REP DIRPKILL_IN_EFFECT Y`	

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp
18 cont	S-N	3 >RWOK OFF 4 >TABLE DIRPSSYS;OVE;VER OFF 5 >CHANGE MINFILES 0;DOWN 6 Repeat substep 5 until 'Bottom' message. 7 >QUIT	
		B Close, copy, and demount all subsystems.	SITE
		1 >MAPCI;MTC;IOD;DIRP 2 >CLOSE <**subsystem**> ACTIVE 3 Repeat substep 2 for DIRP subsystems. 4 >DIRPAUTO <**all unprocessed files**> or 4 >DIRPCOPY <**all unprocessed files**> 5 Repeat substep 4 for all unprocessed files. 6 >DMNT <**subsystem**> {retain for later} 7 Repeat substep 6 for all DIRP subsystems. 8 Stop all log devices on IOC 1 and higher. BSY and OFFL all devices on IOC 1 and higher. BSY IOC, OFFL IOC on IOC 1 and higher.	
		9 Switch IOC 1 and higher by removing the SuperNode cables and replacing them with 'C00' and 'C01' connectors. ***Note:*** Cable C00 must connect to CMC 1 and cable C01 must connect to CMC 0.	INST
	NT40	10 RTS IOC and all devices on IOC 1 and higher.	BOTH
		11 Assign DIRPSSYSs on IOC 1 and higher. If on disk, verify no volume 'IN ERROR' with QUERY <**subsystem**> ALL.	SITE
19	NT40	If DIRP subsystem is on disk. 1 >MAPCI;MTC;IOD;DIRP 2 >MNT <**subsystem**> <**disk**> {subsystems from step 18.B.6} 3 4 Repeat substep 3 for all DIRP subsystems on disk.	SITE
20	NT40	If DIRP subsystem is on tape or BMC. 1 >MOUNT <**x**> FORMAT <**volume_name**> 2 >DEMOUNT <**Tx**> 3 >MAPCI;MTC;IOD;DIRP 4 >MNT <**subsystem**> <**Tx**> {subsystems from step 18.B.6} 5 Repeat substep 4 for all DIRP subsystems.	SITE

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp
21	NT40	If DIRP subsystem is on DPP. Offices equipped with DPP collecting AMA, retrieve DPP settings (change if required), change firmware if needed, boot the standby processor if needed, and put the DPP back into prime mode. Display current DPP settings to hardcopy and change if different from *Switch IOCs to SuperNode*, steps 2.C.1 thru 2.C.10. 1 `>MAPCI;MTC;IOD;DPP AMA` 2 `>COLLPSW` If different, perform substeps 3 and 4; otherwise go to substep 5. 3 `>COLLPSW 1` <**4_digits**> <**6_digits**> , 4 `>COLLPSW 2` <**4_digits**> <**6_digits**> 5 `>AMATPSW` If different, perform substep 6; otherwise, go to substep 7. 6 `>AMATPSW` <**4_digits**> <**6_digits**> 7 `>AMAHRS` If different, perform substep 8; otherwise, go to substep 9. 8 `>AMAHRS` <**start_hour**> <**end_hour**> 9 `>VALPARM INVALID` If different, perform substep 10; otherwise, go to substep 11. 10 `>VALPARM INVALID` <**threshold**> 11 `>ERRMAP ACT` If different, perform substeps 12 and 13; otherwise, go to substep 14. 12 `>ERRMAP` <**alarm_no**> <**type**> <**level**> 13 Repeat substep 12 for each alarm that is different. 14 `>VS STDBY` {verify the firmware and **loadname**} ***Note 1:*** The **loadname** is found in the *PERIPHERAL SOFTWARE RELEASE DOCUMENT* for the NT40 BCS number. ***Note 2:*** If the **loadname** and firmware version are correct, go to substep 21; otherwise, continue.	BOTH
		15 `>BOOT DELETE` {deletes the boot file name} 16 `>BOOT LIST` {lists the load} 17 Repeat substep 15 and 16 until '`BOOTFILE EMPTY`' message.	SITE

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp
21 cont	NT40	18 `>BOOT ADD` <**loadname**> <**version**> {**loadname** is the old DPP loadname and **version** is from *Switch IOCs to SuperNode*, step 2.C.7} ***Note:*** Do not boot. If firmware needs to be updated, go to substep 20; otherwise, continue.	SITE
		19 `>BOOT STDBY`	
		20 If old firmware is required, it must be installed in the standby processor with assistance from the site; otherwise go to substep 21. **a** Power down the standby processor by depressing the power switch on the standby power supply. ***Note:*** Follow anti-static precautions for this procedure. **b** Remove the memory board and replace it with the new board. **c** Power up the standby power supply and wait one minute for the DPP to boot.	

		21 Change the load name in table DPP.
		`>DSKUT;LISTVOL` <**pm_load_volume**> `ALL;QUIT`
		`>TABLE DPP;OVE;VER OFF;`
		`>CHA DPPDNLD` <**loadname**>`;QUIT`
			APP

		22 Put the DPP in PRIME mode. Set the A/B rocker switch on the status panel to correspond with the active processor. Set the O/P rocker switch to P and turn the key to lock the DPP in prime mode. Wait about one minute for the alarms to clear and put the cover on.	SITE
22	NT40	Close all DIRP standby subsystems to clear the '`I`' alarm under the IOD banner of the MAP. 1 `>CLOSE` <**subsystem**> `STDBY1` 2 Repeat substep 1 for all DIRP subsystems. 3 `>QUIT MAPCI`	BOTH

- Procedure continued -

Procedure 15
Revert to NT40 (Continued)

Step	Node	Action	Resp
23	NT40	For offices equipped with MPC boards and feature NTX273AA. **A** List the device which contains the MPC peripheral load. **B** Access table MPC and replace all tuples in order to bind the load name to the FID. 1 `>TABLE MPC;OVE` 2 `>CHANGE` 3 `><`**`cr`**`>` 4 Repeat substep 3 until '`Tuple to be changed`' message. 5 `>Y` {for confirmation} 6 `>DOWN` 7 Repeat substeps 2 through 6 until '`Bottom`' message.	APP

24	NT40	**A** If NTX077AA is present, verify table DSLIMIT, tuple STOREFS, is set to 458752; otherwise, go to substep B.
		`>TABLE DSLIMIT`
		`>RWOK ON;OVE;VER OFF`
		`>POS STOREFS`
		`>CHA DSMAX 458752`
		`>RWOK OFF;QUIT`
		B If NTX077AA is not in present, erase all PMLOAD files from SFDEV and other unwanted files.
		`>TABLE DSLIMIT`
		`>RWOK ON;OVE;VER OFF`
		`>POS STOREFS`
		`>CHA DSMAX 65536`
		`>RWOK OFF;QUIT`
			APP

25	NT40	Change tuple NODEREXCONTROL in table OFCVAR back to the value found from *Data verification* procedure.	APP
26	NT40	Erase all dump and restore, and conversion files from SFDEV.	APP

27	NT40	Restore parallel subsystems that were assigned.
		`>TABLE DIRPSSYS;POS <`**`ssysname`**`>`
		`>CHANGE PARVOL <`**`volname`**`>` {from *Preliminary phase* procedure, step 7.A.1}
		`>QUIT ALL`
			SITE

Appendix A
Command summaries

Chapter contents

Using CHECKTAB

The CHECKTAB feature was developed to identify table corruption. CHECKTAB does extensive table checking and identifies most types of table errors and datafill problems. TABCHK is not as extensive as CHECKTAB but checks for table errors such as false tops, false bottoms, and other consistency problems.

CHECKTAB accomplishes table checks by reading and writing (without any data changes) every tuple in a specified table. If the read or write fails, the tuple position is output. This allows the user to identify the exact tuple in question. Normal table editor comments and warnings are displayed when errors are detected during the CHECKTAB operation.

Checking tables

Check data at the following times:

- six to seven weeks prior to the *Frozen image* date to ensure enough time to correct all data corruption
- twenty-four hours prior to the *Frozen image* to ensure no further data corruption.

Prior to taking the *Frozen image* for dump and restore or implementing JFFREEZE, it is necessary for the site to ensure that all office tables are corruption free and valid table data. This is accomplished by running CHECKTAB on all tables. If CHECKTAB is not available for use, then the

corruption free and valid table data. This is accomplished by running CHECKTAB on all tables. If CHECKTAB is not available for use, then the TABCHK utility will be used.

Warning

CAUTION

Review all open Software Delivery Bulletins and current ETAS Warning Bulletins concerning CHECKTAB before using CHECKTAB.

Only one CHECKTAB should be running when using either the "ALL" or "FROM" option.

When using the '`ALL`' or '`FROM`' option, only one CHECKTAB should be running.

CHECKTAB syntax

```
>HELP CHECKTAB
Table Tuple Consistency CHECKTAB Command
----------------------------------------

The CHECKTAB options are:
   ONLY  - Checks a single table.  The output can be
           redirected to a specific device and filename.
   ALL   - Checks all tables in table CUSTAB.  The output
           can be redirected to a specific device.
   FROM  - Checks all tables following and including a
           given table in CUSTAB. The output can be
           redirected to a specific device.
           The FROM command can also be followed by a
           TO option to specify where CHECKTAB should
           stop checking.  The table following the TO
           option will be included in the check.

The default output device is the screen and the default
filename is the table name concatenated with the string
$FILE.  If the ALL or FROM option is chosen, CHECKTAB
creates a SUMMARY$FILE that lists the results of the
tables it has checked.
```

The results can be sent to SFDEV, disk, or tape. The summary file will always be sent first to SFDEV and then later copied to the user specified device and not erased from SFDEV.

```
      eg1: CHECKTAB ONLY ofcstd
      eg2: CHECKTAB ONLY ofcstd sfdev temp
      eg3: CHECKTAB ALL  sfdev
      eg4: CHECKTAB FROM ofcstd d010temp
      eg5: CHECKTAB FROM custab TO ofcstd sfdev

WARNING: Only one CHECKTAB should be running with the
         ALL or FROM option.
Parms: <Function> {ONLY <Table Name> STRING
                        [<Device Name> DEVICE name]
                        [<File Name> STRING],
                   ALL [<Device Name> DEVICE name],
                   FROM <Start table Name> {(otherwise) [{TO
<End Table Name> STRING}]}
                        [<Device Name> DEVICE name]}
```

CHECKTAB console session

```
>CHECKTAB ALL D000scratch
>LISTSF ALL
OFRT$FILE
HNPACONT$FILE
SUMMARY$FILE
>PRINT SUMMARY$FILE
Tbl CUSTAB     : tuples checked  615, passed  615, failed 0.
Tbl CUSFLDS    : tuples checked  905, passed  905, failed 0.
                                 •
Tbl OFRT       : tuples checked  88, passed   87, failed    1.
Tbl RTEREF     : tuples checked  88, passed   87, failed    1.
                                 •
Tbl HNPACONT   : tuples checked   7, passed    7, failed    0.
---ERROR: Table HNPACONT has subtable problems. Check console
file.
                                 •
Tbl ACDMISSP   : tuples checked   3, passed    3, failed    0.
```

In this SUMMARY$FILE, table OFRT has 1 failed tuple and table HNPACONT has no errors ; however, one of its subtables does.

```
>PRINT OFRT$FILE
TABLE OFRT:  Old Table Control.
*WARNING* No trunk member is present in TABLE TRKMEM yet
INVALID TABLE ROUTE IN T-ROUTE AT:3
---ERROR:  Tuple is invalid.
  POSITION 61
Completed tuple checking.
SUMMARY:  Tbl OFRT:  tuples checked 88, passed 87, failed 1.
```

Position 61 has an invalid T-ROUTE in table OFRT. Correct the error by adding in a new OFRT tuple for the invalid T_ROUTE or remove the invalid T_ROUTE.

> ***Note:*** The warning message is a reminder to remove the T_ROUTE pointing to the CLLI with no trunk members.

```
>CHECKTAB ONLY OFRT
NOTE:  No device specified. Output will go to default device.
TABLE OFRT:  Old Table Control.
*WARNING* No trunk member is present in TABLE TRKMEM yet
Completed tuple checking.
SUMMARY:  Tbl OFRT: tuples checked 88, passed 88, failed 0.
```

Table OFRT is corrected.

```
>PRINT HNPACONT$FILE
TABLE HNPACONT:  Old Table Control.
 POSITION 613
   SUBTABLE RTEREF
INVALID TABLE ROUTE IN T-ROUTE AT:0
---ERROR:  Tuple is invalid.
     POSITION 1
   Completed tuple checking.
   SUMMARY:  Tbl RTEREF: tuples checked 9, passed 8, failed 1.
   SUBTABLE HNPACODE
   Completed tuple checking.
   SUMMARY:  Tbl HNPACODE: tuples checked 6, passed 6, failed
0.
   SUBTABLE ATTRIB
   Completed tuple checking.
   SUMMARY:  Tbl ATTRIB: tuples checked 0, passed 0, failed 0.
                                 •
                                 •
                                 •
Completed tuple checking.
SUMMARY:  Tbl HNPACONT: tuples checked 7, passed 7, failed 0.
```

Correct the error and run '`CHECKTAB ONLY HNPACONT`'.

```
>CHECKTAB ONLY HNPACONT
NOTE:  No device specified. Output will go to default device.
TABLE HNPACONT:  Old Table Control.
 POSITION 613
   SUBTABLE RTEREF
   Completed tuple checking.
   SUMMARY:  Tbl RTEREF:  tuples checked 9, passed 9, failed
   0
   SUBTABLE HNPACODE
   Completed tuple checking.
   SUMMARY:  Tbl HNPACODE:  tuples checked 6, passed 6, failed
   0.
```

```
   SUBTABLE ATTRIB
   Completed tuple checking.
   SUMMARY:  Tbl ATTRIB:  tuples checked 0, passed 0, failed
   0.
                                 .
                                 .
                                 .
Completed tuple checking.
SUMMARY:  Tbl HNPACONT: tuples checked 7, passed 7, failed 0.
```

Table HNPACONT is corrected.

Using JFFREEZE

The JFFREEZE feature was designed to ensure the *Frozen image* for RTP dump and restores was dumped correctly and enforces legal data modifications.

JFFREEZE console session

```
>JFFREEZE ON
                    DATA FREEZE ACTIVATION
                    ----------------------

          ONCE ACTIVE, ON-LINE TECHNICAL SUPPORT WILL BE
          REQUIRED TO TURN JFFREEZE OFF.

          THE SYSTEM IMAGE FOR DUMP AND RESTORE MUST BE
          TAKEN AT THIS TIME.


               DO YOU WISH TO CONTINUE?
Please confirm ("YES" or "NO"):
>YES

          JFFREEZE ACTIVATION CONTINUING....


              SYSTEM IMAGE FOR DUMP AND RESTORE
              ---------------------------------

          ENTER THE FREE IOC OR SLM DISK VOLUME TO RECEIVE
          THE SYSTEM IMAGE FILE(S):

>D000IMG2
JFFREEZE: THE SYSTEM IMAGE DUMP WILL COMMENCE IN 2 MINUTES
          DO YOU WISH TO PROCEED?
Please confirm ("YES" or "NO"):
>YES
```

```
JFFREEZE image dump commences in 2 minutes...

Dump START time:  1989/06/14 18:20:06.416 WED..

CC: Old AUTOLOAD ROUTE:THUMBWHEEL CODE C  CMC 0  IOC 0  MTD 1
CC: New AUTOLOAD ROUTE:THUMBWHEEL CODE A  CMC 0  IOC 0  DDU 0
CC: Dumping RAM.
CC:
CC: Dumping Data Store.
CC:
CC: Dumping Program Store.
CC: Dumping Entry Record.
CC: Checking RAM.
CC:
CC: Checking Data Store.
CC:
CC: Checking Program Store.
CC: Checking Entry Record.
CC: Successful DUMP and CHECK.
CC: 25709 blocks with 49 corrections.
CC: SETBOOT for CC failed, autoload route NOT updated.
Dump Completed Successfully.

Dump END time: 1989/06/14 19:01:11.496 WED..
JFFREEZE image dump completed
                      JOURNAL  FILE
                      -------------

          TABLE DIRPSSYS:

          FROM ANOTHER TERMINAL, CHANGE AND VERIFY THE
          FOLLOWING DATA IN THE JF TUPLE:

   SSYSNAME....RETPD  CRETPD....FILEDATE  SHEDDAYS....ROTACLOS
   --------    -----  ------    --------  --------    --------

     JF         30      30      FIRSTACT   NNNNNNN      BOTH


          READY TO CONTINUE?

Please confirm ("YES" or "NO"):
```

Note: Verify fields listed above and AUTOXFER is set to 'NONE' in table DIRPSSYS.

```
>YES

         THE JOURNAL FILE WILL BE STARTED/ROTATED NOW.

         JFFREEZE WILL AUTOROTATE THE JOURNAL FILE NIGHTLY
         AT APPROXIMATELY 3:00 AM


  ************************************************************
  **                                                        **
  **    JFFREEZE IS NOW ACTIVE  -  DATA FREEZE IN EFFECT    **
  **                                                        **
  ************************************************************
```

Using DISPMS

DISPMS displays the image header information containing the load type, BCS number, and edition code. The main purpose of the DISPMS command is to verify the type of an MS load prior to LOADMS.

Display load file information

1. List the device containing the load file to be displayed. The image must be on SLM disk for this to work.

2. `>DISPMS <filename>`
   Where <filename> is either the MS or CM load file listed above.

3. Information displayed will be similar to one of the following examples:

MS-S BCS 34 CR	(a standard JNET MS load)
MS-E BCS 34 CR	(an ENET MS load)
MS-I BCS 34 CR	(an SCP-II MS load)
MS-N BCS 34 CR	(a SNSE MS load)

Appendix B
NT40 to SuperNode conversion precheck

PROCEDURES

-7 days to conversion

Procedure 1
Initial site contact **DONE**

1	Contact the Site and setup a -5 Day to Conversion Checklist.	____
2	Verify the SuperNode will be booted prior to the Checklist.	____

Procedure 2
Information on pages 1 (Administrative) and 2 (Contacts) of the APPLICATOR REPORT

1	Fill in NT40 and SUPERNODE SITE Information.	____
2	Dialups and Voice Numbers:	
	a. NT40 must have ONE FX DIALUP on IOC 0 and ONE FX on IOC 1.	____
	1. Verify if SITE must originate for FX capability on the dial-up ports.	____
	b. SuperNode must have TWO FX DIALUPS on the CIOC.	____
	1. Verify if SITE must originate for FX capability on the dial-up ports.	____
	c. Record voice numbers and SCC number (if applicable).	____
3	Record the FROZEN IMAGE date.	____
4	If the SuperNode has STRATUM II clock, verify the thirty day warm up cycle is complete.	____

Procedure 3
Verify the correct version of the BCSTOOLS and MOP

1	Verify the correct version of the NT40 BCSTOOLS.	____
2	Verify the correct version of the SuperNode BCSTOOLS.	____
3	Verify the correct version of the CONVERSION M.O.P.	____

Procedure 4
Miscellaneous checks

1 `>TABLE MTD;LIST ALL;QUIT` ____

2 Verify that field IOCNO has at least one with a 0 (zero) and verify it works. ____

Note: If there are none with 0 (zero), the SITE must configure one on on IOC 0. This will enable the Site to DIRPAUTO or DIRPCOPY their DIRP Subsystems once IOC 1 is switched over to SuperNode the night of the conversion.

3 `>TABLE TRKNAME;LIST ALL (1 LT 51);QUIT` ____

Note: The only tuples may be data filled are the CLLIs identified in BCS25 NTP 297-1001-451 pseudo CLLIs). If they are data filled, notify the site that dump and restore will renumber non-pseudo CLLIs starting at 50 and that their OM numbers for those CLLIs will change.

-5 days to conversion

Procedure 1
Verify store resources on the SuperNode **DONE**

1	`>MAPCI;MTC;CM;CMMNT`	{retain the "Total" field for step 3 which is in Kbytes (Kb)}	____
2	`>QUIT MAPCI`		____
3	Take the "Total" field and divide by 1,024 Kb	{memory in 1 Mbyte (Mb) blocks}	____

Note: If the SuperNode is configured with all 24 Mb cards, there is 4Mb of memory not able to be used in the formula and is not included in the "Total" field.

4	Find each memory card type	{this is HOT Spare in 1Mb blocks}	____
a	>MAPCI NODISP;MTC;CM;MEMORY;TRNSL 0 ALL;TRNSL 1 ALL;QUIT MAPCI		____
b	Record each memory card type	{i.e. 3 8M is 24 meg. and 3 2M is 6 meg.}	____

Note: If the SuperNode is configured with mixed memory on BCS 26 and lower, step 4 must include one of each memory card type; otherwise, step 4 must include only the largest memory card type.

5	Take (the value from step 3) - (the value found in step 4.b)	{this is available memory}	____
6	Take the "RQ" field in the BCS MEMORY CONTROL document, which are in 1Mb blocks, and multiplyby 1.1 (BCS27 and lower), this value must be less than the value found in step 5		____

Note: BCS28 and higher has the 10% figure included in the BCS$C report.

e.g. Value from step 1 is 98304Kb on BCS26

from step 3	98304Kb/1024Kb = 96	{in 1Mb blocks}	MEMORY TYPES:
from step 4	the largest memory card is 24Mb	{in 1Mb blocks}	NT9X14BB = 6 Mb
from step 5	96Mb - 24Mb = 72Mb		NT9X14DA = 24 Mb
from step 6	"RQ" is (54 * 1.1) = 59.4	{which is less than 72 and is OK}	NT9X14DB = 24 Mb

Note: If the requirement is not satisfied, consult the Technical Support Supervisor.

Procedure 2
Verify Module RWOK is loaded on the NT40

Note: <**x**> and T<**x**> designate an MTD number.

1	Have the Site load the NT40 TAS NONRES tape on a drive.		____
2	`>QUERY RWOK`	{skip step 5 if loaded}	____
3	`>REMOUNT <x>`		____
4	`>LIST T<x>`		____
5	`>LOAD RWOK`		____
6	`>LOAD OVLPCI`		____
7	`>LOAD JFFRZNR`		____
8	`>DEMOUNT T<x>`		____

Procedure 3
Verify Module RWOK and CORESWCT are loaded on the SuperNode

Step	Action		DONE
1	Have the Site load the SuperNode TAS NONRES on a tape drive		____
2	>QUERY RWOK	{skip step 6 if loaded}	____
3	>QUERY CORESWCT	{skip step 7 if loaded}	____
4	>REMOUNT <**x**>		____
5	>LIST T<**x**>		____
6	>LOAD RWOK		____
	Note: If the NT40 BCS is equal to the SuperNode BCS continue with step 7; otherwise go to step 8.		
7	>LOAD CORESWCT		____
8	>LOAD OVLPCI		____
9	>DEMOUNT T<**x**>		____

Procedure 4
Verify Table DSLIMIT for both NT40 and SuperNode

Step	Action		DONE
1	>TABLE DSLIMIT;LIST		____
	Note: If DSMAX - DSUSED >= 400000 then go to step 7; otherwise continue.		
2	Take DSUSED + 400000	{retain for step 4}	____
3	>RWOK ON		____
	WRITE ACCESS ENABLED FOR RESTRICTED DATA		
4	>CHANGE 2		____
	DSMAX: 234567	{or some other value}	
5	>634567	{or the value found from step 2}	____
	TUPLE TO BE CHANGED:		
	STOREFS 634567 234567		
	ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.		
6	>Y		____
	WRITTEN TO JOURNAL FILE AS JF NUMBER 234		
7	>QUIT		____

Procedure 5
Verify SuperNode CM stability

1	`>LOGUTIL`	____
2	`>OPEN CM;WHILE(BACK)()`	____
3	`>OPEN MS;WHILE(BACK)()`	____
4	`>OPEN MM;WHILE(BACK)()`	____
5	VERIFY THERE WHERE 0 (ZERO) MISMATCHES IN THE PAST 5 DAYS.	____
6	`>QUIT`	____
7	`>TRAPINFO`	____
8	VERIFY THERE WHERE 0 (ZERO) PARITY TRAPS IN THE PAST 5 DAYS.	____
	Note: If any FLTs, MM or PARITY TRAPS have occured, contact the Technical Support Supervisor.	

Procedure 6
Site verifies all NTX packages ordered (reference the D-190 report) **DONE**

New packages are contained within the FTSACTION file or data exception report (DER)	____

Note: If the SuperNode is loaded with BCS27 or higher then go to Procedure 12.

Procedure 7
Load modules on the NT40 when the SuperNode is BCS26 or lower

WARNING: DO NOT LOAD MODULES WHEN PERIODIC TESTS MAY RUN !

1 Have SITE personnel load an NT40 BCSTOOLS tape on an NT40 MTD. ____

2 `>LISTSF ALL` ____

3 Verify the following files are NOT in SFDEV:

- a SEQLIST ____
- b PMINFO ____
- c ACTTO ____
- d INACT ____

4 IF none exist then go to step 5; otherwise, continue.

- a `>ERASESF <filename>` ____
- b Repeat step 4.a as needed. ____

5 `>LIST(MOUNT <x>)` ____

6 `>COPY SEQLIST SFDEV` ____

7 `>COPY PMINFO SFDEV` ____

8 `>UNLOAD JFDUMP` ____

9 `>UNLOAD RFMTCI` ____

10 `>UNLOAD RFMT20` ____

11 `>UNLOAD DRTABEX` ____

12 `>UNLOAD DRUTILUI` ____

13 `>UNLOAD SORT` ____

14 `>UNLOAD DUMPCTRL` ____

15 `>UNLOAD DUMPUI` ____

16 `>LOAD DRUTILUI` ____

17 `>LOAD DRTABEX` ____

18 `>LOAD RFMT20` ____

19 `>LOAD RFMTCI` ____

20 `>LOAD JFDUMP` ____

21 `>COPY ACTTO SFDEV` ____

22 `>COPY INACT SFDEV` ____

23 `>LOAD SORT` ____

24 `>LOAD DUMPUI` ____

25 `>LOAD DUMPCTRL` ____

26 `>DEMOUNT T<x>` ____

Note: If the SuperNode is loaded with BCS26 or lower, then go to Procedure 13.

Procedure 8
Load modules on the NT40 when the SuperNode is BCS27 or higher **DONE**

WARNING: DO NOT LOAD MODULES WHEN PERIODIC TESTS MAY RUN !

1 Have SITE personnel load an NT40 BCSTOOLS tape on an NT40 MTD.

2 >LISTSF ALL

3 Verify the following files are NOT in SFDEV:

- a SEQLIST
- b PMINFO
- c ACTTO
- d INACT

4 IF none exist, go to step 5; otherwise, continue.

- a >ERASESF <filename>
- b Repeat step 4.a as needed.

5 >LIST(MOUNT <**x**>)

6 >COPY SEQLIST SFDEV

7 >COPY PMINFO SFDEV

8 >UNLOAD JFDUMP

9 >UNLOAD RFMTCI

10 >UNLOAD RFMTAP

11 >UNLOAD RFMTYZ

12 >UNLOAD RFMTWX

13 >UNLOAD RFMTUV

14 >UNLOAD RFMTST

15 >UNLOAD RFMTQR

16 >UNLOAD RFMTOP

17 >UNLOAD RFMTMN

18 >UNLOAD RFMTKL

19 >UNLOAD RFMTIJ

20 >UNLOAD RFMTGH

21 >UNLOAD RFMTEF

22 >UNLOAD RFMTCD

23 >UNLOAD RFMTAB

24 >UNLOAD RFMT20

25 >UNLOAD DRTABEX

-Procedure continued-

		DONE
26	`>UNLOAD DRUTILUI`	____
27	`>UNLOAD SORT`	____
28	`>LOAD DRUTILUI`	____
29	`>LOAD DRTABEX`	____
30	`>LOAD RFMTAB`	____
31	`>LOAD RFMTCD`	____
32	`>LOAD RFMTEF`	____
33	`>LOAD RFMTGH`	____
34	`>LOAD RFMTIJ`	____
35	`>LOAD RFMTKL`	____
36	`>LOAD RFMTMN`	____
37	`>LOAD RFMTOP`	____
38	`>LOAD RFMTQR`	____
39	`>LOAD RFMTST`	____
40	`>LOAD RFMTUV`	____
41	`>LOAD RFMTWX`	____
42	`>LOAD RFMTYZ`	____
43	`>LOAD RFMTAP`	____
44	`>LOAD RFMTCI`	____
45	`>LOAD JFDUMP`	____
46	`>COPY ACTTO SFDEV`	____
47	`>COPY INACT SFDEV`	____
48	`>LOAD SORT`	____
49	>DEMOUNT T<**x**>	____

Procedure 9
Load modules on the SuperNode.

1	Have SITE personnel load a SuperNode BCSTOOLS tape on the SuperNode CIOC MTD.		____
2	`>LISTSF ALL`		____
3	Verify the following files are NOT in SFDEV:		
	a ACTTO<**sn**>	{<**sn**> is a reference to the SuperNode BCS number}	____
	b INACT<**sn**>		____
4	IF neither exist then go to step 5; otherwise, continue.		
	a `>ERASESF <filename>`		____
	b Repeat step 4.a as needed.		____
5	`>LIST(MOUNT <x>)`		____
6	`>COPY ACTTO<sn> SFDEV`		____
7	`>COPY INACT<sn> SFDEV`		____
8	`>LOAD SORT`		____
9	`>DEMOUNT T<x>`		____

Procedure 10
PM load check on the NT40 **DONE**

Note: Verify the correct load in all Peripheral Modules according to the PM Release Document for BCS<**sn**> on the NT40.

1 `>MAPCI;MTC;PM;STATUS` {record all PM types for the step 2} ____

2 `>POST <`**`pm_type_from_step_1`**`> ALL` ____

for Regular PM types :

- TM8 ____
- MTM ____
- OAU ____
- TM4 ____
- TM2 ____
- T8A ____
- LM ____
- DCM ____
- DES ____
- LCM ____
- LCMI ____
- ISLM ____
- RMM ____

`>QUERYPM;NEXT`

for New PM types :

- LTC ____
- LTCI ____
- LGC ____
- LGCI ____
- DTC ____
- SMS ____
- SMR ____
- SMU ____
- ESA ____
- RCC ____
- RSC ____
- RSCI ____
- MSB6 ____
- MSB7 ____
- IAC ____

`>QUERYPM;QUERYPM CNTRS;NEXT`

3 Verify ST loads in Table STINV since there is no way to QUERY them.

`>TABLE STINV` ____

`>LIST ALL` ____

Verify the correct loads by comparing the LOAD field with the Release Document. ____

`>QUIT` ____

4 If the Site has DISKs equipped, verify the PMLOADS and XPM PATCHES are contained on both IOC disks. If they are not, the Site needs to copy them to the other disk. ____

Procedure 11
Verify NT40 NODE NUMBERS match the SuperNode **DONE**

1 On the NT40 and the SuperNode

2 `>TABLE NNASST;BOT;QUIT` {record the number in the first field for step 7} ____

Note: If the NT40 is BCS23 or lower, go to step 5.

3 `>TASTOOLS ON PMIST` ____

Enter Password

4 ><TASTOOLS password> ____

5 `>PMIST` ____

6 `>1->A` ____

7 >REPEAT <number from step 2>(PRINT A;DEVICENAME A;A+1->A) ____

Note: All nodes and node numbers are displayed.

8 `>QUIT` ____

9 Verify all NODE NUMBERS match starting with 7. ____

Note 1: SuperNode PMC, SLM 0, and SLM 1 nodes should be NT40 'NODE UNDEFINED'.

Note 2: The printouts will look similar to this:

NT40				SuperNode			
1	CPU_NODE	CPU	0	1	MS_NODE	MS	0
2	CPU_NODE	CPU	1	2	MS_NODE	MS	1
3	CMC_NODE	CMC	0	3	MC_NODE	MC	0
4	CMC_NODE	CMC	1	4	MC_NODE	MC	1
5	IOC_NODE	IOC	0	5	CPU_NODE	CM	0
6	DDU_NODE	DDU	0	6	IOC_NODE	IOC	0
7	TC_NODE	TC	0	7	TC_NODE	TC	0
		.				.	
165	NODE UNDEFINED			165	DDU_NODE	DDU	0
166	NODE UNDEFINED			166	PMC_NODE	PMC	0
167	TC_NODE	TC	26	167	TC_NODE	TC	26
				168	SLU_NODE	SLM	0
				169	SLU_NODE	SLM	1
				170	TC_NODE	TC	27

Procedure 12
Journal file dump and restore **DONE**

1 Have the site confirm no change orders will be performed. ____
2 Have the site rotate the currently active journal file device and write the journal file name in their log book. ____
3 Have site confirm which journal files need to be dumped and restored and where they reside (the device they are on) including the one rotated from step 2. ____
4 Have the site load a scratch tape with a write enable ring on an MTD. ____
`>MOUNT <x> FORMAT JFSAVE` ____
`>LISTSF ALL` ____
`>RFMT SET <nn> <sn>` {**nn** is the NT40 BCS and **sn** is the SuperNode BCS} ____
5 If journal file is on disk. ____
a `>DISKUT` ____
b `>LISTVOL <disk_volume_name> ALL` ____
c Repeat step 5.b for all journal file disk volumes. ____
d `>QUIT` ____
e `>JFDUMP <journal_file> <unique_filename> T<x> <nn> <sn>` ____
<**journal_file**> references the journal file in chronological order give by the site in step 3
<**unique_filename**> references i.e. JF A (increment 'A' to 'B' to 'C' etc.)
<**nn**> references the current NT40 BCS load
<**sn**> references the current SuperNode BCS load
f Repeat step 5.e for all journal files. ____
6 If journal file is on tape, have site load the first journal file tape on an MTD.. ____
a `>LIST(MOUNT <x>)` {the journal file tape} ____
b `>JFDUMP <journal_file> <unique_filename> T<x> <nn> <sn>` ____
<journal_file> references the journal file in chronological order give by the site in step 3
<unique_filename> references i.e. JFA (increment 'A' to 'B' to 'C' etc.)
<nn> references the current NT40 BCS load
<sn> references the current SuperNode BCS load

c `>DEMOUNT T<x>` {the journal file tape} ____
d Have site load the next journal file tape on an MTD. ____
e Repeat steps 5.a through 5.d for all journal file tapes. ____
7 Start journal file. ____
a `>JF STATUS` {If JOURNAL FILE STARTED message,go to 7.c; otherwise, continue.} ____
b `>JF START`
c `>DEMOUNT T<x>` {have the site move the journal file dump tape to the SuperNode} ____
8 Confirmation of data on the NT40. This step must be done before any changes are made.
a Refer to section 2.1 and complete step 10 A and B of the SuperNode Conversion MOP. ____
b Confirm large table counts by using the 'TABCHK ONLY <table>' command. ____
9 Restore Journal File on the SuperNode:
a `>LIST(MOUNT <x>)` ____
b `>RECORD START ONTO <site_printer>` {verify logs are stopped} ____
c `>DMOPRO <jf_dump_file>` {fix all errors with the site} ____
d Repeat step 9.c for all journal file dumped. ____
e `>RECORD STOP ONTO <site_printer>` ____
f `>DEMOUNT T<x>` ____
10 On the SuperNode (confirmation of data):
a Refer to section 2.1 and complete step 18 of the SuperNode Conversion MOP. ____
b Confirm large table counts by using the 'TABCHK ONLY <table>' command. ____

-Procedure continued-

Procedure 13
DPP check **DONE**

1 `>MAPCI;MTC;IOD;DPP AMA` ____

2 `MAP>VS ACT` ____

COMMAND SENT TO DPP
MAP>
001-DPP014-01 44 30-NOV-1987 13:57:01.02
MAP>

<**load_name**> {verify **load_name** with the PM Release Document} ____

MAP>

DOS <**firmware**> {verify **firmware** is 21.03 for BCS24 - 21.08 for BCS25 and up} ____

3 `MAP>VS STDBY` ____

COMMAND SENT TO DPP
MAP>
001-DPP014-01 44 30-NOV-1987 13:57:01.37
MAP>

<**load_name**> {verify **load_name** with the PM Release Document} ____

MAP>

DOS <**firmware**> {verify **firmware** is 21.03 for BCS24 - 21.08 for BCS25 and up} ____

4 `MAP>QUIT MAPCI` ____

Note: If the requirements are not satisfied, verify the ROMs are on site location. If not, contact the BCS region prime to ensure the DPP will be updated before the scheduled conversion date.

Procedure 14
Patching

1 Copy SuperNode patches to the Patch Tape.

a Have the site load the patch tape with a write enable ring on the SuperNode CIOC. If there is no patch tape use a scratch tape. ____

b >LISTSF ALL ____

Note: If using an existing patch tape, do step 1.c; otherwise, do step 1.d.

c `>LIST(MOUNT <x>)` {existing patch tape} ____

d `>MOUNT <x> FORMAT SNPAT` {scratch tape} ____

e `>COPY <patch_id> T<x>` ____

f Repeat step 1.e for all patches in SFDEV. ____

g `>DEMOUNT T<x>` ____

-Procedure continued-

			DONE
2	Patch the CM.		
	`>PATCHER`		____
	`>DISPLAY <patch_id>`		____
	`>CHECK <patch_id>`		____
	`>APPLY <patch_id>`		____
	Repeat step 2 for all CM patches.		____
3	`>INFORM LIST`	{for Patch Administrator}	____
4	MS patching		
	Note: MS patches are designated as xxxyy M**nn**$PATCH where **nn** is the BCS number and M identifies MS patches.		
	a Copy all MS patches to a scratch disk. Verify the total number of files will be under 31.		____
	b `>MAPCI;MTC;MS`	{Look under the **CLOCK** field for the **Slave** clock.}	____
	c `>QUIT MAPCI`		____
	d `>REMLOGIN MS <z>`	{where **z** is the "Slave" MS Clock from step 3.b}	____
	e `>FINDDEV DISK CM`		____
	f `>FINDFILE <disk_vol>`	{**disk_vol** is the disk from step 3.a with a **CM** prefix, i.e. CMD000SCRATCH}	____
	g `MSz>PATCHER`		____
	h `MSz>INFORM LIST BCS28`	{go to step 3.j if **BCSnnRTM** is found}	____
	i `MSz>EDIT BCS28RTM$PATCH`		____
	`MSz>INPUT`		____
	`%% <cr>`		____
	`<cr>`		____
	`MSz>FILE SFDEV`		____
	`MSz>APPLY BCSnnRTM`		____
	j Apply patches to the MS.		
	`MSz>DISPLAY <patch_id>`		____
	`MSz>CHECK <patch_id>`		____
	`MSz>APPLY<patch_id>`		____
	Repeat step 3.j for all MS patches.		____
	k `MSz>INFORM LIST`	{for Patch Administrator}	____
	l `MSz>QUIT`		____
	m `MSz>ERASESF <$ld_file>`	{for all $ld files in SFDEV}	____
	n `MSz>REMLOGOUT`		____
	o Switch the MS Clock mastership:		
	`>MAPCI;MTC;MS`		____
	`>SWMAST`		____
	`>QUIT MAPCI`		____
	p Repeat steps 4.d thru 4.n substituting **z** and **MSz** with the other MS number.		____
	q Verify all patches in MS0 PATCHER are in MS1 PATCHER from the INFORM LISTs.		____
	x `>ERASESF <$ld_file>`	{for all $ld files in SFDEV}	____

Procedure 15
Other checks

1	`>LOGOUT`	{logout of the SuperNode and the NT40}	____
2	Have the Site and/or Installation DUMP at least one IMAGE.		____
3	Remind Installation to test the Master Switchboxes before the -3 Day precheck.		____

Signature: ____ ***Date:*** ____________

-3 days to conversion

Procedure 1
Confirm unresolved **DONE**

	Confirm all unresolved issues from the -5 Days to Conversion Checklist.	____

Procedure 2
Verify SuperNode CM stability

1	`>LOGUTIL`	____
2	`>OPEN CM;WHILE(BACK)()`	____
3	`>OPEN MS;WHILE(BACK)()`	____
4	`>OPEN MM;WHILE(BACK)()`	____
5	VERIFY THERE WHERE 0 (ZERO) MISMATCHES IN THE PAST 5 DAYS.	____
6	`>QUIT`	____
7	`>TRAPINFO`	____
8	VERIFY THERE WHERE 0 (ZERO) PARITY TRAPS IN THE PAST 5 DAYS.	____
	Note: If any FLTs, MM or PARITY TRAPS have occured, contact the Technical Support Supervisor.	

Procedure 3
Journal file dump and restore

1	Have the site confirm no change orders will be performed.	____
2	Have the site rotate the currently active journal file device and write the journal file name in their log book.	____
3	Have site confirm which journal files need to be dumped and restored and where they reside (the device they are on) including the one rotated from step 2.	____
4	Have the site load a scratch tape with a write enable ring on an MTD.	____
	>MOUNT <**x**> FORMAT JFSAVE	____
	>LISTSF ALL	____
	>RFMT SET <**nn**> <**sn**> {**nn** is the NT40 BCS and **sn** is the SuperNode BCS}	____
5	If journal file is on disk.	____
	a >DISKUT	____
	b >LISTVOL <**disk_volume_name**> ALL	____
	c Repeat step 5.b for all journal file disk volumes.	____
	d >QUIT	____
	e >JFDUMP <**journal_file**> <**unique_filename**> T<**x**> <**nn**> <**sn**>	____
	journal_file = the journal file in chronological order give by the site in step 3 unique_filename = i.e. JFA (increment 'A' to 'B' to 'C' etc.) nn = the current NT40 BCS load sn = the current SuperNode BCS load	
	f Repeat step 5.e for all journal files.	____

-Procedure continued-

DONE

6 If journal file is on tape, have site load the first journal file tape on an MTD.. ____

a >LIST(MOUNT <**x**>) {the journal file tape} ____
b >JFDUMP <**journal_file**> <**unique_filename**> T<**x**> <**nn**> <**sn**> ____

journal_file = the journal file in chronological order give by the site in step 3
unique_filename = i.e. JFA (increment A to B to C etc.)
nn = the current NT40 BCS load
sn = the current SuperNode BCS load

c >DEMOUNT T<**x**> {the journal file tape} ____

d Have site load the next journal file tape on an MTD. ____

e Repeat steps 5.a through 5.d for all journal file tapes. ____

7 Start journal file. ____

a >JF STATUS {If JOURNAL FILE STARTED message,go to 7.c; otherwise, continue.} ____
b >JF START
c >DEMOUNT T<**x**> {have the site move the journal file dump tape to the SuperNode} ____

8 Confirmation of data on the NT40. This step must be done before any changes are made.

a Refer to section 2.1 and complete step 10 A and B of the SuperNode Conversion MOP. ____

b Confirm Large table counts by using the 'TABCHK ONLY <table>' command. ____

9 Restore Journal File on the SuperNode:

a >LIST(MOUNT <**x**>) ____
b >RECORD START ONTO <**site_printer**> {verify logs are stopped} ____
c >DMOPRO <**jf_dump_file**> {fix all errors with the site} ____

d Repeat step 9.c for all journal file dumped. ____
e >RECORD STOP ONTO <**site_printer**> ____
f >DEMOUNT T<**x**> ____

10 On the SuperNode (confirmation of data):

a Refer to section 2.1 and complete step 18 of the SuperNode Conversion MOP. ____

b Confirm Large TABLE counts by using the 'TABCHK ONLY <table>' command. ____

Procedure 4
Patching

1 Copy SuperNode patches to the Patch Tape.

a Have the site load the patch tape with a write enable ring on the SuperNode CIOC. If there is no patch tape use a scratch tape. ____

b >LISTSF ALL ____

Note: If using an existing patch tape, do step 1.c; otherwise, do step 1.d.

c >LIST(MOUNT <**x**>) {existing patch tape} ____

-**Procedure continued-**

DONE

d >MOUNT <**x**> FORMAT SNPAT {scratch tape}

e >COPY <**patch_id**> T<**x**>

f Repeat step 1.e for all patches in SFDEV.

g >DEMOUNT T<**x**>

2 Patch the CM.

>PATCHER
>DISPLAY <**patch_id**>
>CHECK <**patch_id**>
>APPLY <**patch_id**>

Repeat step 2 for all CM patches.

3 >INFORM LIST {for Patch Administrator}

4 MS patching

Note: MS patches are designated as xxxyy <u>M</u>**nn**$PATCH where **nn** is the BCS number and <u>M</u> identifies MS patches.

a Copy all MS patches to a scratch disk if the total number of files in SFDEV are 32 or higher. Verify the total number of files on disk will be under 31.

b >MAPCI;MTC;MS {Look under the **CLOCK** field for the **Slave** clock.}

c >QUIT MAPCI

d >REMLOGIN MS <**z**> {where **z** is the Slave MS Clock from step 3.b}

e >FINDDEV DISK CM

f >FINDFILE <**disk_vol**> {**disk_vol** is the disk from step 3.a with an CM prefix, i.e. <u>CM</u>D000SCRATCH}

g MSz>PATCHER

h MSz>INFORM LIST BCSnn {go to step 3.j if BCS<**sn**>RTM is found}

i MSz>EDIT BCS<**sn**>RTM$PATCH
MSz>INPUT
%% <**cr**>
<**cr**>
MSz>FILE SFDEV
MSz>APPLY BCS<**sn**>RTM

j Apply patches to the MS.

MSz>DISPLAY <**patch_id**>
MSz>CHECK <**patch_id**>
MSz>APPLY<**patch_id**>

Repeat step 3.j for all MS patches.

k MSz>INFORM LIST {retain for substep q}

l MSz>QUIT

m MSz>ERASESF <**file_$ld**> {**file_$ld** references patch modules in SFDEV}

n MSz>REMLOGOUT

o Switch the MS Clock mastership:

>MAPCI;MTC;MS
>SWMAST
>QUIT MAPCI

p Repeat steps 4.d thru 4.n substituting **z** and **MSz** with the other **MS** number.

q Verify all patches in MS0 are contained in MS1 from the INFORM LISTs from substep m.

x >ERASESF <**file_$ld**> {**file_$ld** references patch modules in SFDEV}

Procedure 5
Focused maintenance (NTX272)

1	Verify if package NTX272 exists.		
	a PATCHER;INFORM LIST NTX272;QUIT		____
	b If 'NTX272...' message is output, continue; otherwise, go to Procedure 6.		____
2	Query the NT40:		
	a `>MAPCI NODISP;MTC;LNS;LNSTRBL;QSUP`	{retain for substep 3.a}	____
	b `>TRKS;TRKSTRBL;QSUP`	{retain for substep 3.b}	____
3	Restore values on the SuperNode:		
	a `>MAPCI NODISP;MTC;LNS;LNSTRBL`		____
	b `>TRKS;TRKSTRBL`		____

Procedure 6
Other checks

1	`>LOGOUT`	{logout of the SuperNode and the NT40}	____
2	Have the Site and Installation dump at least one image.		____
3	Verify Installation has retested the Master Swichboxes.		____

Signature: ____ ***Date:*** ____________

Appendix C
Conditional procedures

Chapter contents

Subject index

General

The procedures listed in this chapter may be referenced to correct specific problems that have been seen at one time or another during the software delivery.

Bulletins

AB 90-023

```
SUBJECT:    Incorrect syntax to BUSY DCMs in NDEVSTAT file.

FROM BCS:   23-27                        TO BCS:  26-27

PROBLEM:    RFMT NDEV creates the file NDEVSTAT with an incorrect
            syntax for BUSYing the DCMs.

            Incorrect syntax:  PM;POST DCM #;BSY PM
            Correct syntax:    PM;POST DEC #;BSY

ACTION:     Perform the following for all offices with DCMs:

            >EDIT NDEVSTAT
            >SEND SFDEV NDEVDCM
```

```
>CHANGE GLOBAL 'POST DCM' 'POST DCM'
>SEND PREVIOUS
>QUIT
>LISTSF
>EDIT NDEVDCM
>CHANGE GLOBAL 'BSY PM' 'BSY'
>FILE SFDEV NDEVDCM
>LISTSF
>READ NDEVDCM
>ERASESF NDEVDCM
```

AB 90-041

SUBJECT: Table XFERSSYS is not datafilled.

FROM BCS: 27-29 TO BCS: 30

PROBLEM: Table XFERSSYS is not datafilled by the conventional dump and restore.

ACTION:

1. Ensure that the site has package NTX562.

2. If the site has the above package, then check table XFERSSYS to see if it has been datafilled.

```
MATE>TABLE XFERSSYS
MATE>LIST ALL
MATE>QUIT
```

3. If table XFERSSYS is NOT datafilled, then execute the following commands:

```
MATE>Table STREAM
MATE>LIST ALL; QUIT
```

%% For every tuple in table STREAM add the corresponding tuple to table XFERSSYS.

%% For example:
If the tuples in table STREAM are:

```
1 KT
2 SMDR
3 OM
```

Then add tuples to XFERSSYS:

```
MATE>TABLE XFERSSYS;OVE;VER OFF
MATE>ADD KT 1 FNONE
MATE>ADD SMDR 2 FNONE
MATE>ADD OM 3 FNONE
MATE>QUIT
```

Notices

AB NOTICE#: 88-014N

SUBJECT: STATUSPUDATE FAILURE

FROM BCS: ALL TO BCS: ALL

PROBLEM: NDEVSTAT, CARRSTAT AND RALLSTAT is read when STATUSUPDATE fails. These files are not incorporated in the BCS25 load. These files must be created.

ACTION:

```
RFMT SET {OLD BCS# {NEW BCS#}
RFMT HDW NDEVSTAT SFDEV
RFMT DS1 CARRSTAT SFDEV

MATEBIND AND COPY FILES TO SFDEV IN NEW LOAD

(ON MATE)
READ NDEVSTAT
READ NDEVSTAT
```

AB NOTICE#: 89-030N

SUBJECT: NDEVSTAT FAILS TØ RTS ALL NECESSARY HARDWARE

FROM BCS: ALL TØ BCS: ALL

PROBLEM: When STATUSUPDATE fails and NDEVSTAT has to be created and read, it will not return to service all necesary hardware if CCS, IMPL or ISDN software is present. The RALLSTAT file also does not print the status of the above items.

ACTION: Check the appropriate hardware: IAC'S, STC'S, DCH'S, LCMI'S, ISG'S, IPML'S, drawers on all LM'S, LCM'S or LCMI'S, and etc. If any of those nodes are not CBSY, then they will have to be manually returned to service before SWACT.

Appendix D
Test call scripts

Chapter contents

Index of major feature packages

Test script procedures

BCS testing procedure

The purpose of this section is to provide a test plan for the verification of the new software release. The tests are sequenced to ensure switch sanity and call processing stability.

The test plan consists of generic tests to be "datafilled" by the Telco/carrier site as applicable for the particular site (calling number, called number, and test results). Space is provided for the site to add additional tests as required.

Immediately following the "swact" the site should ensure that *Critical call processing tests* are initiated.

Following that, *AMA verification tests* (either NT or Bellcore formats) and *Metering verification tests* should be executed for the appropriate sites.

When executing the *Critical feature tests* it is the responsibility of the Telco/Carrier to ensure that service to high profile customers (for example: 911, police, fire, hospitals, and radio stations) is fully restored.

The information in this section is organized in the following manner:

- *Critical call processing tests* section is to be completed in the first 30 minutes.
- *AMA verification tests* section is to be initiated immediately after and in conjuntion with *Critical call processing tests*. This section is comprised of three subsections:
  - *Standard AMA tests using NT billing record formats*
  - *Standard AMA tests using Bellcore AMA formats*
  - *Metering verification tests* section
- *Critical feature tests* section is to be completed by 06:00 hours.
- *Non-Critical tests* section is to be completed by 09:00 hours.

Critical call processing tests

DMS-100 critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Check for dial tone on all LM's			
2	Verify all EAS outgoing routes			
3	Verify CAMA route for ANI 1&2 party			
4	Verify local tandem routes			
5	Verify '0' minus route			
6	Verify '0' plus route			
7	Verify '0' plus route using DTMF for ACCS features			
8	Verify '0' plus route using DP for operator access (no ACCS features)			
9	Verify DDO route			

DMS-100 critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	Verify directory assistance (DA) route			
11	Verify ONI 1-7, 1-10 digits			
12	Verify critical PBX routes (i.e. hospitals, etc.)			
13	Verify service CODE routes (i.e. 511, 911 etc.)			
14	Verify all switcher announcements, 60T, 120T			
15	Verify TOLL COMP (DTS) route			
16	Verify INC EAS routes			
17	Verify IFR intra-office call			
18	RLM tests: a EAS outgoing (one route) b '0' plus/minus c CAMA ANI d IFR INTRA RLM			
19	Verify operator intercept route			

DMS-200 critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify all incoming and outgoing intertoll routes			
2	Verify all toll COMP(DTS) routes			
3	Verify all machine announcements			
4	Verify incoming CAMA routes			
5	Verify ONI and ANIFAIL CAMA calls go to CAMA positions and complete			

AOSS critical call processing test (Auxiliary Operator Services System)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Return an AOSS position to service (BSY, RTS, etc.)			
2	Verify a DMODEM is attached to the data trunk of the position (AOSSPOSDATA)			
3	Verify login to an AOSSPOS with a valid operator no			
4	From a MF AOSS DA ANI type trunk place a 411 ANI call to AOSS (seizure - KP - 0 - 7D ANISPILL - ST)			
5	Verify call arrival tone display of 411, and correct booknumber at AOSS position. Enter a requested number and key 'POS RLS'.			

AOSS critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
6	From an AOSS POS DA ONI type trunk place a 411 ONI call to AOSS seizure only)			
7	Verify call arrival tone, display of 411, and CLG# header. Enter a requested number and 'POS RLS'. Verify call is not released until a valid calling number is entered.			

Datapath critical call processing test (NTX250 Datapath-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	At a data unit, press DN & verify: a audible beep is returned when key is pressed b DN lamp on solid c dial tone is returned	NOTE: Ensure that baud rate switches on both data units are set to 9600 asynchronous		
2	Press Volume/UP & Volume/DOWN keys & verify volume increases and decreases			
3	Key in digits corresponding to the directory number of another data unit. Verify dial tone breaks and audible beep returned whenever a key is pressed.			
4	Verify audible ringing/warbling is returned to both originating and terminating data units			

Datapath critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	Verify while ringing/warbling is taking place: a originator's DN lamp is on solid b terminator's DN lamp is flashing c NET CONNECT lamps on both data units flash			
6	Press terminating DN key and verify: a ring/warble ceases on both data units b both DN lamps are on solid c both NET CONNECT lamps on solid d a 2-way data path exists between data units (eg., send data from data terminal on one DU to another data terminal on the other DU) e line state at LTP indicates CPB			
7	Press terminator's RLS key and verify: a line state returns to idle b 2-way data path no longer exists c both data units return to original idle state (eg., DTR and POWER/SYNC lit)			

Datapath critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
8	Repeat steps 1 to 7, only RLS from originator			
9	Repeat steps 1 to 8, only set up call in opposite direction			
10	On a data unit set the AUTO ANSWER switch to AUTO			
11	Terminate a call at that data unit and verify: a it warbles momentarily b DN lamp is lit c warbling ceases d call is automatically answered, NET CONNECT lamp is lit solid, and 2-way data path exists			
12	Repeat last two steps for several SYNCHRONOUS and ASYNCHRONOUS baud rate settings			
13	If BERT (Bit Error Rate Test) equipment is available, verify that acceptable error rate is obtained (eg., 10 exp-7)			

Equal Access critical call processing test (NTX186 Equal Access End Office)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify local tandem routes to the IC's point of presence are operational			
2	Verify direct ATC routes to the IC's point of presence are operational			
3	Complete a 10XXX-0 call to the appro-priate IC operator route			
4	Complete a 10XXX-0 -7 digit intralata intrastate call (if intralata calls are allowed to complete)			
5	Complete a 10XXX-0 -7 digit interlata intrastate call			
6	Complete a 10XXX-0 -10 digit interlata intrastate call			
7	Complete a 10XXX-0 -10 digit interlata interstate call			
8	Complete a 10XXX - 01 - international call			

Gateway critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify all (idle) incoming and outgoing R1 trunks			
2	Verify all (idle) incoming and outgoing N5 trunks			
3	Verify all (idle) incoming and outgoing N6 trunks			
4	Ensure all tones, group alarms and announcements function			
5	Verify proper link management functions on N6			
6	Verify proper trunk states and trunk recovery on call processing			
7	Verify proper trunk states and trunk recovery on CCITT #6			
8	Ensure calls may be processed from R1 to N5, N5 to R1 and R1 to R1			
9	Ensure calls may be processed from N5 to N5 (transit)			

Gateway critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	Ensure calls may be processed from N6 to N5, N6 to R1, N5 to N6, R1 to N6, and N6 to N6			
11	Verify warm restart effect on trunk states ie. trunks in CP, speech, idle, setup, takedown stages			
12	Verify cold restart effect on trunk states ie. trunks in CP, speech, idle, setup, takedown stages			

DMS-TOPS critical call processing tests (Traffic Operator Position System, NTX030 TOPS Call Processing Features)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Return 1 position to service (i.e. INB, MB, etc.)			
2	Verify DMODEM is attached to data trunk of position			
3	Return all HOBIC devices to service (HOBIC, AQ, VQ and record)			
4	Verify each device has DMODEM attached			
5	From MF combined TOPS trunk, place 1-ANI call (KP-NPA-NNX-7D-ST2P-KP-0-7D ANI SPILL - ST)			
6	Verify call terminates OK and speech path is good			
7	From MF combined TOPS trunk, place 0- ANI call (KP - NPA-NNX-7D-ST3P-KP-0-7D ANI SPILL - ST)			

DMS-TOPS critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
8	Call appears as 0-call.Wait for call to terminate & key 'RLS FWD' &'START' Outgoing portion drops and re-outpulses			
9	Verify call can be handled & floated by operator.Verify call terminates OK			
10	From MF combined TOPS trunk,place 0- ONI call (KP-ST3P-KP-1-ST)			
11	Call appears as 0 call. Verify call can be handled properly by the operator and terminates OK.			
12	Repeat step 10 & 11 from dedicated non-coin trunk			
13	From MF combined TOPS trunk, place 1- HOTEL call (KP-NPA-NNX-7D-ST2P-KP-6 -7D ANI SPILL- ST)			

DMS-TOPS critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
14	Call appears as 1-hotel call.Verify it be handled properly by the operator and terminates OK. On completion of call, HOBIC devices should record it.			
15	Repeat steps 13 & 14 from a dedicated hotel trunk.			
16	From MF combined TOPS trunk, place 0- COIN call (KP-NPA-NNX-7D STP-KP-0 -7D ANI SPILL- ST)			
17	Call appears as 0-coin pre call. Verify it is handled properly by the operator and terminates OK.			
18	Do flash recall from originator. Verify call comes back as 'RCL'.Key 'POS RLS'. Wait 3 mins. & ensure call arrives NFY 3			
19	Repeat step 17 & 18 from dedicated coin trunk.			

DMS-TOPS critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
20	From the FM TTY, enable a transfer (XA1)			
21	Verify that; a)IC screen is up-dated to include transfer format b)FM CRT screen is updated to include transfer format c)FM TTY position status summary is updated to include transfer format (key P)			
22	Key 'L' from T0 TTY. Verify a message is received at the TTY showing the logged in operators			

DMS-250 critical call processing test

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify all service CCTS IDLE/INI STATE (ANNS, RCVRDGT, RCVRMF, RCVRATD, TTT, TTU, T102T)			
2	Verify all (IDLE) customer trunks (ONAL, ONAT, EANT) NO "PMB,CFL" states			
3	Verify all (IDLE) network trunks (IMT, DAL, DAL-TIE) NO "PMB,CFL" states			
4	Confirm EANT OFFNET call processing (ORIG 7D,10D W/ANS)			
5	Confirm EANT ONNET call processing (ORIG 7D,10D W/ANS)			
6	Confirm (ONAL,DAL) OFFNET call processing (7D, 10D W/ANS)			
7	Confirm (ONAL,DAL) ONNET call processing (7D, 10D W/ANS)			
8	Confirm IMT,ONAT W/ "SAT" call processing (ORIG W/SAT _ Y)			
9	Verify OCC billing record incrementing (DIRP: QUERRY OCC)			

DMS-250 critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	Ensure all tones, group alarms, and ANNMNTS operational			
11	Verify 6/7 digit AUTHCODE W/ACCSCRN (note CDR results)			
12	Verify speed number calls can process (7D, 10D - CDR REF)			
13	Confirm IDDD call originations and terminations W/ANS 7D, 10D ON/OFFNET			
14	*** TOPS REQMT *** Verify call routing I) ORIG ANI CALLS II) ORIG ONI CALLS			
15	*** TOPS REQMT *** Verify TOPS calls can be completed (7D,10D ON/OFFNET)			

DMS-250 Mercury critical call processing test

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify all service CCTS IDLE/INI state (ANNS, RCVRDTUK, RCVRMF, RCVATDUK, TTT, TTU, T102T, BT101 IC/OG)			
2	Verify all (IDLE) customer trunks (MEL, 3J, 3L) NO "PMB,CFL" states			
3	Verify all (idle) network trunks (IMT, T250, TOPS, IT250) NO "PMB,CFL" states			
4	Confirm 3L access call processing to 3J, 3L, MEL, IMT and TOPS (verify CDR'S)			
5	Confirm 3J access call processing to 3J, 3L, MEL, IMT and TOPS (verify CDR'S)			
6	Confirm MEL OFFNET call processing (3J, 3L) (Verify CDR'S)			
7	Confirm MEL ONNET call processing (TO MEL, IMT, TOPS) (verify CDR'S)			

DMS-250 Mercury critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
8	Confirm IMT call processing to MEL, 3J, 3L and IMT (verify CDR'S)			
9	Verify OCC/AMA record incrementing (AMADUMPB (OCC/AMA) (DIRP: QUERRY OCC/ AMA)			
10	Ensure all tones, group alarms, and ANNMNTS operational			
11	Verify 6 digit AUTHCODE W & WO CCC (note CDR results)			
12	Verify speed number calls can process (verify CDR)			
13	*** TOPS REQMT *** Verify call routing I) ORIG ANI calls either MELDN or AC			
14	*** TOPS REQMT *** Verify TOPS calls can be completed to MEL 3J 3L & IMT (verify AMA for each calltype using AMA LOGREPS and CDRDUMP to compare)			
15	Verify OCC for each calltype using OCC LOGREPS and CDRDUMP to compare			

DMS-MTX critical call processing test

TEST NO	TEST DESCRIPTION	FROM: TRUNK TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	RESULT /REMARKS
1	Verify all service CCTS IDLE/INI state (ANNS, RCVRS - DGT, MF, ATD, TTT, TTU, T102T)			
2	Verify all cell sites (INSV) no SYSB/MANB states			
3	*** MACPI-TTP level: set 'C'/'P' trks that are "IDL" to "INB" status (these must be "SZD" state otherwise)			
4	Verify all RCU(S) (INSV) CCH, LCR, TAU and VCHS. no SYSB/MANB states			
5	Verify all (IDLE) customer trunks (MTX and ZONE) no "PMB,CFL" states			

DMS-MTX critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
6	Confirm MTX-BASIC call processing land to mobile mobile to land mobile to mobile (ORIG 7D,10D W/ANS)			
7	Verify AMA billing record incrementing (DIRP; QUERY AMA)			
8	Insure all tones, group alarms, and announcements are operational.			

DMS-100 International critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Check for dial tone on all lcm's			
2	Verify Local Metered Call			
3	Verify National Metered Call			
4	Verify Intern. Metered Call			
5	Verify DIR. DIAL Queque (03)			
6	Verify DIR. DIAL Immed. (09)			
7	Verify directory assistance (DA) route (01)			
8	Verify critical PBX routes. hospitals (77)			
9	Verify critical PBX routes fire (00)			
10	Verify service code routes Repair (02)			

DMS-100 International critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
11	Verify all switcher announce-ments, 60T, 120T			
12	Verify toll comp route			
13	Verify inc routes			
14	Verify IFR intraoffice call			

AMA verification tests

The automatic messaging accounting (AMA) Verification test section provides test calls to ensure all aspects of the AMA feature function correctly.

Beginning with BCS 29 and higher BCSs, offices can be configured for AMA recording in the Bell Communications Research (Bellcore) format. The Northern Telecom (NT) AMA format is used in many offices. Two versions of AMA verification tests are provided depending on the AMA format (NT AMA format or Bellcore AMA format) used in the office. For more information on the two formats refer to:

- NTP 297-1001-128 (Bellcore AMA format)
- NTP 297-1001-119 (NT AMA format)

Regardless of which format is used in the office the AMA verification tests for both AMA formats consists of the following:

- Series of test calls (call scripts) are made
- an AMA program is used to dump the AMA tape or disk file containing the records for the test calls
- The dumped AMA information is compared for each test call made
- If the dumped AMA information is correct for each test call, the AMA feature is functioning properly

Standard AMA tests using NT billing record formats

For the NT billing format a total of 30 call scripts have been established as a standard package. However, the Telco may add or delete call scripts based on job requirements and feature availability.

Before beginning the tests each call script should be filled with the calling and called telephone numbers plus the ANI spill when different from the calling number.

After the call scripts are completed, the AMA tape is printed using a non-resident program called AMADUMP. The AMA tape data entries are then compared.

Using the AMADUMP program, the following AMA tape entries should be verified for each call script (see NTP 297-1001-119 for a detailed explanation):

1. Entry code
2. Information Digits
3. Service Feature Code
4. Event Information Digit
5. Answer Time (day and time)
6. Conversation Time
7. Called Number
8. Calling Number

The following notes are provided for call scripts to indicate call set-up configuration, optional tests etc.

(1) This test is considered optional and to be executed at the Telco's discretion.

(2) This test call is to originate from a NEE TTS 59B (BLUE BOX) or equivalent connected to a analog incoming Cama trunk.

(3) This test call is to originate from any end office. To provide this it is suggested end office telephone lines be provided at the DMS toll office.

(4) Call a telephone number that will not provide an answer condition.

(5) Request directory assistance operator to disconnect first.

(6) Obtain a special billing number from the traffic department.

(7) SWAPS - system wide area paging system

(8) Refer to the traffic equipment circular for a Multi Voice Com calling number and ANI id.

(9) The 'call attempt feature' is turned on by table OFCPARM POS NO_ANS_CALLS_ON_TAPE set to 'Y'.

Standard AMA tests using NT billing record formats

No	Call Information	Entry Code	Info Digit	Ser Feat Digit	Event Info Digit	CAMA Susp	Call Duration
1	STATION PAID DDD Note 3 ani, originating disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	00	no	15 sec
2	STATION PAID DDD Note 3 ani, terminating disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	01	no	20 sec
3	INWATS Note 3 ani, originating disconnect Called Number 1-800-___-____ Calling Number ___-____	00	20	00	00	no	60 sec
4	SWAPS Note 1,3 ani, originating disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	00	no	10 sec
5	TWX Note 1,2 ani, originating disconnect Called Number kp-610-___-____-st Calling Number kp-0-___-____-st	08	20	00	00	no	15 sec
6	SWAPS Note 1,3 oni, terminating disconnect Called Number 1-___-___-____ Calling Number ___-____	00	24	00	01	no	12 sec
7	OUTWATS Note 3 ani, terminating disconnect Called Number 1-___-___-____ Calling Number ___-____	11	2	0	01	no	10 sec

Standard AMA tests using NT billing record formats (continued)

No	Call Information	Entry Code	Info Digit	Ser Feat Digit	Event Info Digit	CAMA Susp	Call Dura tion
8	OUTWATS Note 1,2 ani fail, originating disconnect Called Number kp-___-___-____-st Calling Number kp-2-___-____-st	11	25	00	00	no	25 sec
9	MULTI VOICE COM Note 1,2,8 ani, originating disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	15	20	00	00	no	10 sec
10	MULTI VOICE COM Note 1,2,8 ani fail, originating disconnect Called Number kp-___-___-____-st Calling Number kp-2-___-____-st	15	25	00	00	no	15 sec
11	MULTI VOICE COM Note 2 oni, originating disconnect Called Number kp-___-___-____-st Calling Number kp-1-___-____-st	15	24	00	00	no	10 sec
12	STATION PAID DDD Note 2 ani/service observed, originating disconnect Called Number kp-___-___-____-st Calling Number kp-3-___-____-st	00	30	00	00	no	10 sec
13	STATION PAID DDD Note 2 ani fail/service observed originating disconnect Called Number kp-___-___-____-st Calling Number kp-5-___-____-st	00	31	00	00	no	30 sec

Standard AMA tests using NT billing record formats (continued)

No	Call Information		Entry Code	Info Digit	Ser Feat Digit	Event Info Digit	CAMA Susp	Call Duration
14	STATION PAID DDD oni/service observed originating disconnect Called Number kp-___-___-____-st Calling Number kp-4-___-____-st	Note 2	00	34	00	00	no	25 sec
15	STATION PAID DDD ani, originating disconnect call attempt feat 'on' Called Number 1-___-____ Calling Number ___-____	Note 3,4,9	00	20	00	00	no 02	15 sec
16	STATION PAID DDD ani, originating disconnect Called Number 1-555-1212 Calling Number ___-____	Note 3	00	20	00	00	no	15 sec
17	STATION PAID DDD ani, terminating disconnect Called Number 1-___-555-1212 Calling Number ___-____	Note 3,5	00	20	00	01	no	15 sec
18	STATION PAID DDD ani fail, originating disconnect Called Number kp-___-___-____-st Calling Number kp-2-___-____-st	Note 1,2	00	25	00	00	yes	10 sec
19	STATION PAID DDD oni, originating disconnect Called Number 1-___-____ Calling Number ___-____	Note 1,2	00	24	00	00	yes	10 sec

Standard AMA tests using NT billing record formats (continued)

No	Call Information		Entry Code	Info Digit	Ser Feat Digit	Event Info Digit	CAMA Susp	Call Duration
20	STATION PAID DDD ani, blue box fraud/ans/ orig. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	Note 1,2	00	20	00	04	no	20 sec
21	STATION PAID DDD ani, blue box fraud/ans/ term. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	Note 1,2	00	20	00	05	no	25 sec
22	STATION PAID DDD ani, blue box fraud/ no ans/orig. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	Note 1,2	00	20	00	06	no	30 sec
23	STATION PAID DDD ani, blue box fraud/ no ans/term. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	Note 1,2	00	20	00	07	no	25 sec
24	INWATS oni, originating disconnect Called Number 1-800-___-____ Calling Number ___-____	Note 3	00	24	00	00	no	35 sec

Standard AMA tests using NT billing record formats (continued)

No	Call Information		Entry Code	Info Digit	Ser Feat Digit	Event Info Digit	CAMA Susp	Call Dura tion
25	STATION PAID DDD oni, orig. disc. special billing no. Called Number 1-___-___-____ Calling Number ___-____	Note 3,6	00	24	00	00	no	40 sec
26	INWATS oni/service observed, originating disconnect Called Number kp-___-___-____-st Calling Number kp-4-___-____-st	Note 2	00	34	00	00	no	30 sec
27	INWATS ani/service observed, originating disconnect Called Number kp-___-___-____-st Calling Number kp-3-___-____-st	Note 2	15	30	00	00	no	20 sec
28	STATION PAID DDD ani, originating disconnect Called Number 1-___-___-____ Calling Number ___-____	Note 3	00	20	00	00	no	180 sec
29	STATION PAID DDD ani, originating disconnect Called Number 1-___-___-____ Calling Number ___-____	Note 3	00	20	00	00	no	300 sec
30	STATION PAID DDD ani, originating disconnect Called Number 1-___-___-____ Calling Number ___-____	Note 3	00	20	00	00	no	1 sec

Standard AMA tests using Bellcore AMA format (NTX098 Bellcore CAMA Format/NTX159 Bellcore LAMA Format)

The Bellcore AMA format identifies each type of call by a call code. Each call code uses a number of different structure codes depending upon the attributes of the call. The *Standard AMA tests using Bellcore AMA format* table consists of 21 different call tests. Each call test is identified by a call code. Use this set of call scripts for the office if configured for the Bellcore AMA format. The telephone company may add or delete call scripts based on job requirements and feature availability.

After the call scripts are completed, the AMA tape may be printed by using a non-resident program called AMADUMP. The AMA tape data entries are then compared. (See NTP 297-1001-128 for a detailed explanation.)

Standard AMA tests using Bellcore AMA format

NUMBER	CALL TYPE	CALL CODE	CALL FEATURE
1	station paid ddd	006	ani,originating disconnect
2	station paid ddd	006	ani, terminating disconnect
3	inwats	008	ani, originating disconnect
4	outwats	068	ani, terminating disconnect
5	outwats	068	ani fail, originating disconnect
6	station paid ddd	006	ani/service observed, originating disconnect
7	station paid ddd	006	ani fail/service observed, originating disconnect
8	station paid ddd	006	oni/service observed, originating disconnect
9	station paid ddd	006	ani,originating disconnect unanswered call recording
10	directory assistance 555-1212	033	ani, origianting disconnect
11	station paid directory assistance NPA-555-1212	006	ani,terminating disconnect
12	station paid ddd	006	ani fail,originating disconnect

Standard AMA tests using Bellcore AMA format (continued)

NUMBER	CALL TYPE	CALL CODE	CALL FEATURE
13	station paid ddd	006	oni, originating disconnect
14	inwats	008	oni, originating disconnect
15	station paid ddd	006	oni, origianting disconnect, special billing number
16	inwats	008	oni,service observed, originating disconnect
17	outwats	068	ani, service observed, originating disconnect
18	station paid ddd	006	ani,originating dicsonnect duration_1 second
19	multi-unit message rate	001	detailed billing, timed, originating disconnect
20	multi-unit message rate	001	detailed billing, timed, terminating disconnect
21	multi-unit message rate	002	bulk billing, timed originating disconnect

Standard AMA tests using Bellcore AMA format (continued)

NUMBER	CALL TYPE	CALL CODE	CALL FEATURE
22	multi-unit message rate	002	bulk billing, timed, terminating disconnect
23	multi-unit message rate	003	detailed billing, untimed, originating disconnect
24	multi-unit message rate	003	detailed billing, untimed, terminating disconnect
25	multi-unit message rate	004	bulk billing, untimed, originating disconnect
26	multi-unit message rate	004	bulk billing, untimed, terminating disconnect
27	directory assistance 411	009	ani, originating disconnect

REFERENCE: NTP 297-1001-128 (Bellcore AMA format)

Metering verification tests

The metering Verification test section provides test calls to ensure all aspects of the metering feature function correctly.

These call scripts have been established as a recommendedstandard package. However, the Telco may add or delete call scripts based on job requirements and feature availability.

Before beginning the tests each call script should be filled with the calling and metering information.

After the call scripts are completed, the Billing tape is printed using a non-resident program. The Billing tape data entries are then compared.

Verify basic call processing on LCM with BCS21 LCM load.

Here are two test cases for simple metering verification:

1. LINE TO LINE METERING

   a. Select a line with an SPM.

   b. At map enter
      Post the line, then enter COUNTS and note meter value.

   c. Determine the current tariff rate for a LOCAL line to line call.

   d. Make a line to line call from the line with SPM.

   e. Leave the call up for a sufficient length of time for meter pulses to be sent.

   f. Terminate the call and record new meter count.

   g. Verify the meter count is correct for the current tariff and that the SPM value agrees with the meter count to within one pulse.

2. LOCAL COIN - BASIC CALL

   a. Verify the coin line has a LCC _ COIN.

   b. Verify metering assigned (QDN -> SPM option).

   c. Go off hook; verify dial tone, red light on.

   d. Attempt to dial; verify ignored.

   e. Deposit coin; dial tone not interrupted.

f. Make a local call; verify ringing.

g. Answer call; verify coin collect, red light off.

h. Verify additional meter pulses, credits used.

i. Three loud tones; last credit starts.

j. Verify additional coins accepted.

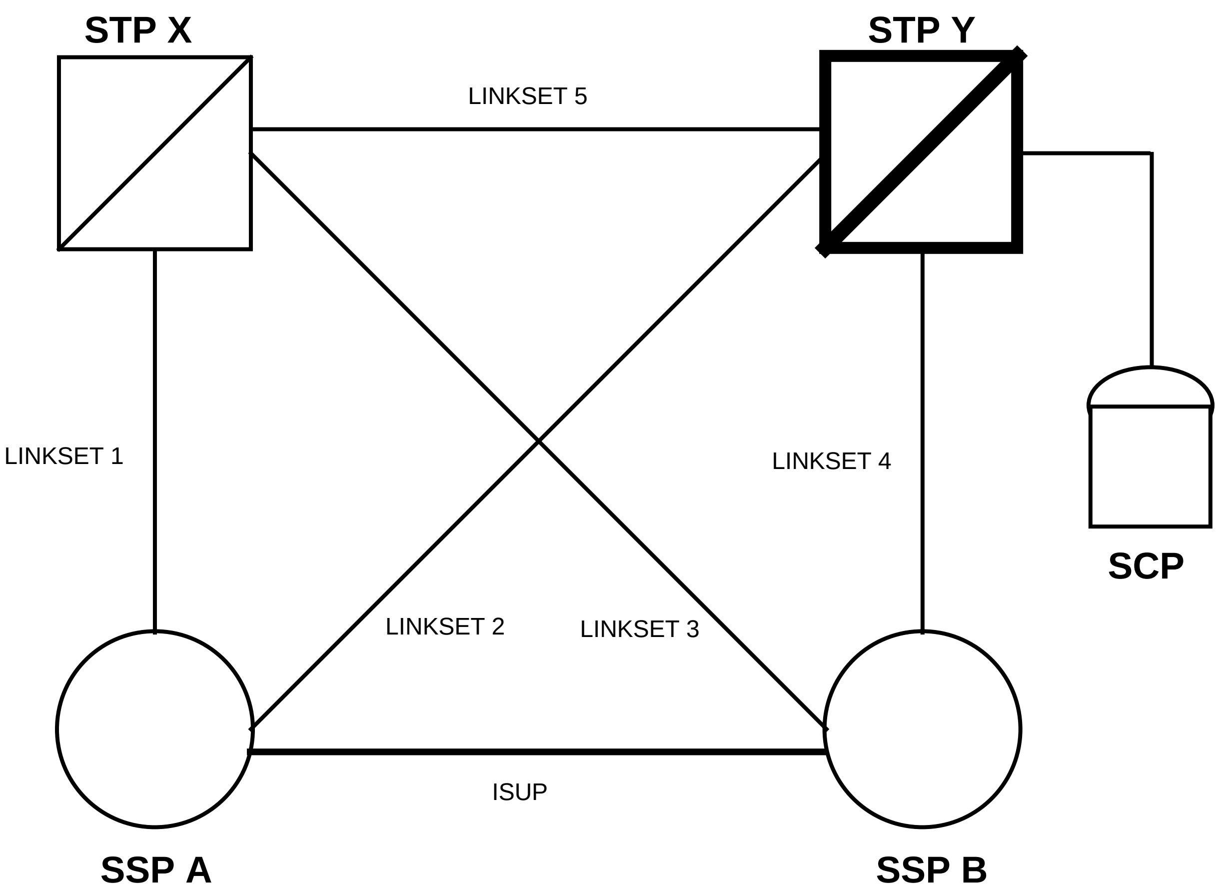
k. Verify call is cut-off when last credit expires.

DMS-STP verification tests

These tests are recommended to be run at the following times:

- Prior to loading peripherals with the new BCS level loads.
- After loading peripherals with the new BCS level loads.
- After swact to the new BCS level load on the STP, while the STP is still OUT-OF-SYNC.

Figure 1
STP Y is getting the software upgrade



STP verification test cases
(NTX832 DMS-STP Basic/NTX833 STP Operations)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
1	Verify ROUTING, DATABASE services, and CLASS features funtionality. (Reference Figure 1.)	
	a) Inhibit all links in LINKSET 1 (from SSP A)	
	b) At STP Y verify that route to SSP A via STP X is marked TFP (TFP = transfer prohibited)	
	c) At SSP B verify that route to SSP A via STP X is marked TFR (TFR = transfer restricted)	
	d) Perform DATABASE QUERY from SSP A to SCP (e800, accs, etc.)	
	e) Place several calls from SSP A to SSP B and verify that calls complete (isup)	
	f) Place calls from SSP A to SSP B via ACB/AR and verify that calls complete (ACB = automatic call back, AR = automatic recall)	
	g) Place calls from SSP B to SSP A and verify that calls complete (isup)	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
	h) Place calls from SSP B to SSP A via ACB/AR and verify that calls complete	
	i) Uninhibit all links in LINKSET 1 (from SSP A)	
	j) Inhibit all links in LINKSET 2 (from SSP A)	
	k) At STP X verify that route to SSP A via STP Y is marked TFP	
	l) At SSP B verify that route to SSP A via STP Y is marked TFR	
	m) Perform DATABASE QUERY from SSP A to SCP (e800, accs, etc.)	
	n) Place several calls from SSP A to SSP B via ACB/AR and verify that calls complete	
	o) Place calls from SSP B to SSP A via ACB/AR and verify that calls complete	
	p) Uninhibit all links in LINKSET 2	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
2	Verify LINKSETS	
	a) Perform INSV test on a link in a linkset	
	b) Inhibit the link	
	c) BSY the link	
	d) Deact the link	
	e) Perform LIU7 maintenance test on associated LIU7 (see test 3)	
	f) RTS the link	
	h) ACT the link	
	g) Uninhibit the link	
	h) Perform INSV test on the link	
	i) Go to test 4	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
3	Verify LIU7	
	a) Perform INSV test on the LIU7 AFTER THE ASSOCIATED LINK IS OUT-OF-SERVICE:	
	b) BSY the LIU7	
	c) Perform out-of-service test on the LIU7	
	d) Reload the LIU7	
	e) PMRESET the LIU7	
	f) Perform out-of-service test on the LIU7	
	g) RTS the LIU7	
	h) Perform INSV test on the LIU7	
	i) Return the associated link to service. (Go to test 2f)	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
4	Verify FBUS	
	a) Perform INSV test on an FBUS	
	b) Perform INSV test on a TAP	
	c) BSY the TAP	
	d) Perform out-of-service test on the TAP	
	e) Ensure the associated LIU7 is ISTB due to MANB TAP	
	f) RTS the TAP	
	g) Perform INSV test on the TAP	
	h) Ensure the associated LIU7s are inservice	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
5	Verify LIM	
	a) Perform INSV test on the LIM	
	b) Bsy one unit of the LIM	
	c) Perform out-of-service test on the unit	
	d) Reload the unit	
	e) PMRESET the unit	
	f) RTS the unit	
	g) Perform INSV test on the unit	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
6	Verify EIU for MDR7	
	a) Take the associated MDR7 instance out-of-service	
	b) Perform INSV test on the EIU	
	c) Bsy the EIU	
	d) Perform out-of-service test on the EIU	
	e) Reload the EIU	
	f) PMRESET the EIU	
	g) Perform out-of-service test on the EIU	
	h) RTS the EIU	
	i) Perform INSV test on the EIU	
	j) Return the associated MDR7 instance to service	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
7	Verify SEAS feature functionality	
	a) Check the connection by verifying the MPCs (Multi-Protocol-Controller) are ENBLD (post both MPCs associated with SEAS)	
	b) Verify PVCs (Permanent Virtual Circuits) are INSV (PVC MAP level)	
	c) Check that X.25 levels (OSI layers 1, 2 and 3) are established by verifying the PVCs (Permanent Virtual Circuits) are INSV (PVC MAP level)	
	d) Check the SEAS application by verifying that SEAS is INSV (SEAS MAP level)	
	e) Make sure the application-application connections are established by verifying all PVCs are INSV (PVC level of SEAS)	

Critical feature tests

DMS-100 critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify ground start			
2	Verify hunting - (MLH,DNH)(option CIR, LIN)			
3	Verify stop hunt (SHU)			
4	Verify bridge night number			
5	Verify COIN - CC, CR on IAO and EAS calls			
6	Verify coin control TROL- CC, CR ON operator call (0 - -)			
7	Verify 2FR - IAO, EAS revertive (TIP & RING)			
8	Verify multiparty - IAO, EAS REVER-TIVE (TIP & RING)			
9	Verify 4FR ANI			

DMS-100 critical feature tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	Verify 1MR - PEG routes, NON PEG routes			
11	Verify one alternate route, routes correctly			
12	Verify PS/PD line routes correctly to LKOUT			
13	Verify OM routing and reporting			
14	Verify each LCC can originate and terminate with Digitone and Digipulse™			
15	RLM tests repeat tests 1, 5, 6, 7, 12 and 14			
16	Verify DTDETECT			
17	Verify acces to all map levels			
18	Verify special billing (SPB)			
19	Verify service orders			
20	Verify table editor			

DMS-200 critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify one alternate route routes correctly			
2	Verify OM routing and reporting			
3	Verify access to all map levels			
4	Verify table editor basic commands			

AOSS critical feature test

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	From an OIC type AOSS trunk place a 411 ANI call. (KP-OIC-ST - KP - 0 - 7D ANISPILL - ST)			
2	Verify call arrival tone, display of 411 and correct booknumber at position. Enter a requested number. Verify call can be released without entering a CLG# by keying 'NC' (No Charge) & 'POS RLS'			
3	From an intertoll trunk (originating within home NPA) place a 555-1212 call to AOSS. Verify call comes to position identified as 'HOM'. Enter a CLG# and 'POS RLS'.			
4	From an intertoll trunk (originating within foreign NPA) place a 555-1212 call to AOSS. Verify call comes to position identified as 'FOR'. POS RLS.			

AOSS critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	Verify ability of l AOSS calls to queue for an available position.			
6	RTS an AOSS TRAFFIC OFFICE TTY (TADS) key 'L'. Verify a message is received at the TTY showing the logged in operators.			
7	Verify AMA for all calls above.			
8	RTS T.O. TTY, FM CRT, FM TTY, Assistance and Incharge positions.			
9	From an AOSS DA ANI type trunk place a 411 call to AOSS (seizure - KP-0-7D - ANISPILL - ST).			
10	Verify call arrives at AOSS operator position; place a general set call.			
11	Verify set call arrives at the Assistance position. Verify the assistant, operator, and customer can talk to each other.			

AOSS critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
12	Release call from assistance and complete call at general position.			
13	Repeat above test, making a directed set call to an Incharge position Float call to Incharge and release call.			

Gateway critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify functionality of MAP, TTPs and attendant resources (for all maintenance levels).			
2	Verify functionality of CDRs, oms, LOGS, subsystems.			
3	Verify functionality of all test lines for national and international types.			
4	Verify functionality of all test lines for TASI,SAT OVERIDE, NWM,SA,FEATURES.			
5	Verify functionality of cancel repeat attempts and code blocking.			
6	Verify calls will reroute or reattempt upon encountering troubles (R1,N5,N6)			
7	Verify all table editor features are functional.			
8	Verify DMO changes and data updates may be made.			

IBN/MDC critical feature test (Meridian Digital Centrex, NTX100 IBN/MDC-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Observe from the LOGS all consoles in the office have returned to the status they were before the reload			
2	Ensure the console to be used in testing, can be RTS & verify the night service LED is on (console unjacked).			
3	Verify all customer groups correctly respond to their listed DN dialed e.g. night service or att service.			
4	Verify: a IBN/MDC station to IBN/MDC station calls terminate correctly b IBN/MDC station to IBN/MDC trunk calls(MF,DP, DTMF) calls terminate correctly c IBN/MDC trk to IBN/MDC station calls terminate correctly. d IBN/MDC trk to IBN/MDC trunk calls terminate correctly.			

IBN/MDC critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	JACK_IN to the test console and make it available to rcv calls.			
6	Make zero call to the attendant & answer it. Verify speech connection Extend call to: a another IBN/MDC stn b an IBN/MDC trunk.			
7	Access an idle loop at the TC. Make AC to IBN/MDC line call. Answer it. Key the digits of another IBN/MDC station and answer it. Verify speech paths from all 3 connections Release the call from the AC and verify the 2 stations are connected. Release the call.			
8	Verify DOD access, Centrex & PBX.			
9	Verify Toll calls are recorded.			
10	If SMDR is appli-cable, verify SMDR is working.			
11	Verify a diagnostics to the AC works.			
12	Verify interposition calling and PBX.			

P-PHONE critical feature tests (NTX089 Enhanced Coin Services)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Complete IBN/MDC critical feature tests as applicable.			
2	Verify the following calls terminate correctly: a)P-Phone to attendant b)P-Phone to IBN/MDC station c)P-Phone to IBN/MDC trunk d)P-Phone to P-Phone e)Attendant to P-Phone f)IBN/MDC station to P-Phone e)IBN/MDC trunk to P-Phone			

DMS-TOPS critical feature tests (NTX030 TOPS Call Processing Features)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	RTS traffic office TTY,FM CRT,FM TTY, assistance pos. & Incharge pos.			
2	From MF combined trunk group , place 0- ANI call (KP-ST3P-KP-7D ANI SPILL- ST)			
3	Verify call arrives at TOPS operator pos.			
4	Place general set call.			
5	Verify set call arrives at the Assistance pos. Verify the assistant,operator & customer can talk to each other			
6	Release call from assistance operator.			
7	Complete call using the TOPS operator position.			

DMS-250 critical feature test

TEST NO	TEST DESCRIPTION	FROM LINE TYPE OR CLLI	TO CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify EANT ANI screening functions I) Invalid "NXX" ANI SPILL TRMT II) Restricted call routing access (Note CDR results)			
2	Verify "#" / "*" re-dial features ONAL,DAL,ONAT,EANT			
3	Verify hotline call routing functions I) dedicated II) conditional			
4	Verify CF3P/CF6P call setup, ANS, re-dial, disconnect			
5	Verify (IMT, ONAT) route advance FUNC. (SAT RTE, PART'NED)			
6	Verify CDR search on call records functions correctly			

DMS-250 critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM LINE TYPE OR CLLI	TO CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
7	Verify NEMAS/AOM link access, file transfer operation			
8	Confirm MM access: I) all map levels II) table editor III)DMO, JF INCREMT IV) CDR, OM LOG REPS V) map test lines			
9	*** TOPS REQMT *** Verify TOPSPOSDATA CCTS operational with console functions			

DMS-250 Mercury critical feature test

TEST NO	TEST DESCRIPTION	FROM LINE TYPE OR CLLI	TO CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify CSH timer feature functions (Note CDR results)			
2	Verify "#" / "*" re-dial features			
3	Verify hotline call routing functions I)dedicated II)conditional			
4	Verify CF6P call setup, ANS, re-dial, disconnect			
5	Verify (IMT) route advance function			
6	Verify CDR search on call records functions correctly			
7	Confirm MM access: I)all map levels II)table editor III)DMO, JF INCREMT IV)CDR, OM LOG REPS V)map test lines			
8	*** TOPS REQMT *** Verify TOPSPOSDATA CCTS operational with console functions			

DMS-MTX critical feature test

TEST NO	TEST DESCRIPTION	FROM: TRUNK TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	RESULT /REMARKS
1	Verify 3WC, CWT, CFW, CXR feature ACT / DEACT.			
2	Verify CFD, CFB, teature ACT / DEACT			
3	Verify handoff between cells with both standard calls and activated features.			
4	Verify tiered cell handin / handout functionality.			
5	Confirm MM access: a) All map levels b) Table editor c) DMO, JF INCREMT d) CDR, OM LOG REPS e) Map test lines			

DMS-100 International critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify ground start			
2	Verify hunting-(DNH) option CIR)			
3	Verify bridge night number			
4	Verify local coin calls			
5	Verify 1MR - peg routes, non peg routes			
6	Verify one alternate route, routes correctly			
7	Verify PS/PD line routes correctly to LKOUT			
8	Verify OM routing and reporting			

DMS-100 International critical feature tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
9	Verify each LCC can originate and terminate			
10	Verify access to all map levels			
11	Verify special billing (SPB)			
12	Verify service orders			
13	Verify table editor			

DMS-200 International critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify one alternate route routes correctly			
2	Verify OM routing and reporting			
3	Verify access to all map levels			
4	Verify table editor basic commands			

Non-critical tests

DMS-100 non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify coin touch tonepad disabling			
2	Verify flash ignore			
3	1FR OGT MF ON TM call			
4	1FR OGT DP ON TM call			
5	1FR OGT MF ON DCM call			
6	1FR OGT DP ON DCM call			
7	EAS INC MF to 1FR DGT CLI idle call			
8	EAS INC MF to 1FR DGT CLI busy call			
9	EAS INC MF to line on operator intercept call			
10	EAS INC to SYNC/ non-sync test line call			
11	EAS INC to open CKT test line call			
12	EAS INC to short CKT test line call			

DMS-100 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
13	EAS INC to MW test line call			
14	EAS INC TO balance test line call			
15	EAS INC to loop around port 1 & 2 call			
16	CDF or CCF coin call -PS/PD(CR)			
17	CDF or CCF coin call - vacant code ann (CR)			
18	CDF or CCF coin call - DACS (CR)			
19	CDF or CCF coin call - repair desk (CR)			
20	CDF or CCF coin call - intercept (CR)			
21	CDF or CCF coin call - OGT with answer (CR)			
22	CDF or CCF coin call- OGT without answer (CR)			

DMS-100 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
23	#3LTC or CALRS or equivalent - post DGT idle line			
24	#3LTC or CALRS or equivalent - post DGT busy(talking) line			
25	Verify service analysis basic commands			
26	Verify LOGUTIL routing and reporting			
27	MAP tests - PM level. For each each PM type as equipped, do the following tests: BSY-TEST-REMOVE controller card (0X70 for TM,MTM & OAU; 2X38 for DCM; 2X27 for LM & RLM) - test should fail) - replace controller card - reload - test - RTS Do above on TM2 0, TM4 0, TM8 0, MTM 0, OAU 0, DCM 0, LM 0, RLM 0			*********** *With TELCO *approval *only ***********

DMS-100 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
28	Verify the folowing features work: a) 3we b) efw - regular, remote & remote equal acced c) cwt d) speed calling			
29	Map tests - net level Select a network pair and plane : Perform BSY-TEST -RTS			
30	Map tests - LTP level Post a line: DIAGN-BSY-RTS			
31	Map tests - TTP level Post a trunk : Perform BSY-RTS -TEST (no parms)			

DMS-200 non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify incoming CAMA TO: 101 test line 102 test line 103 test line 104 test line 108 test line			
2	Verify incoming intertoll to: 101 test line 102 test line 103 test line 104 test line 108 test line			
3	Verify service analysis basic commands			
4	Verify network management basic commands			

DMS-200 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	Map tests - PM level For each PM type as equipped, do the following tests:			
	BSY-TEST-REMOVE OX7O - test (should fail) replace OX7O RELOAD-TEST-RTS Do above on TM 2 0, TM 4 0, TM 8 0, MTM 0, OAU 0, DCM 0			*********** *With TELCO * approval * only ***********
6	Map tests - NET level Select a network pair and plane : Perform BSY-TEST -RTS.			
7	Map tests - TTP level Post a trunk:perform BSY-RTS-TEST (no parms)			

AOSS non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	From the FM TTY, key 'P' and verify a position status summary is received.			
2	Verify OM pegs in OM group: 'AOSS are being incremented for work volume, initial position seizures, and calls waiting queue usage.			

ATT100 non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Make a coin line to TSPS call. Verify expanded inband signalling coin collect, return, ringback, operator release, operator-attached function operation.			
2	Verify AMA record on a MUMR call			
3	Verify correct register pulsing on a hotel/motel line.			
4	Verify that a 2-party or 4-party ANI line with DOR not originate.			
5	Verify that a 2 or 4 party ANI line with SUS may not originate or be terminated on.			
6	Make a coin call with an insufficient coin deposit.			
7	Verify that coin call totalizer operation is correct.			

Datapath non-critical tests
(NTX250 Datapath-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Ensure that data unit switches are set as follows: Manual Answer Manual Origination Self Test off Far End Loopback off Local Loopback off Internal Clock Adaptive Profile off Buzz soft Assert DTR off Assert RTS off 9600 BAUD ASYNC			
2	Connect Data Terminal Equipment with the following settings to both data units: 9600 Baud Async No Parity On Line Full Duplex			
3	Ensure that POWER/SYNC and DTR lamps on data units are lit.			
4	Verify that the POWER/SYNC lamp flashes if the jack is unplugged, and the POWER/SYNC lamp lights solid within 2 sec. when the jack is plugged in.			

Datapath non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	At LTP level of MAP POST a data unit line and verify that line is posted.			
6	Diagnose line and verify the following: a)line state changes to 'MB', b)UNDER TEST lamp is lit on data unit, c)diagnostic passes, d)UNDER TEST lamp turns off and line state returns to idle			
7	Turn the SELF TEST switch on momentarily and verify: a)POWER/SYNC and UNDER TEST are only lamps lit, b)all lamps are lit after several sec., c)data unit returns to its previous state.			

ESN non-critical test (Electronic Switched Network)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify calls from IBN/MDC line using: a network speed call b variable outpulsing types on a trunk c tone detection route d authorization code f queuable routes g route with ESN protocol			
2	Verify that Time of DAY routing is using proper routes for the current time of day.			
3	Verify operation of the DISA feature			
4	Verify access through virtual facility groups.			
5	Verify proper timeouts in digit collection on various access codes			

Equal Access non-critical tests (NTX186 Equal Access End Office)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Complete a 10XXX 7 digit intralata intrastate call (providing intralata calls are allowed to complete).			
2	Complete a 10XXX-1 -7 digit interlata intrastate call.			
3	Complete a 10XXX-1 -10 digit interlata intrastate call.			
4	Complete a 10XXX- -10 digit interlata interstate call.			
5	Complete a 10XXX-0 -10 digit world zone 1 call.			
6	Complete a 10XXX-1 -10 digit world zone 1 call.			
7	Complete a 10XXX - 011 - international call.			

Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
8	Repeat tests 1 through 7 and verify that both feature group C and feature group D calls complete correctly.			
9	Repeat tests 1 through 7 using either an interim or transitional carrier dialing 950 1XXX and verify that the calls complete correctly.			
10	For tests 1 through 9 verify that the correct AMAB logs and AMA records are output.			
11	Verify that all existing trunk logs reflect the correct equal access information in the new corresponding fields.			
12	Verify that operational measurements correctly pegs equal access calls and failures.			
13	Verify that TSMS correctly pegs equal access calls and failures.			

Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
14	Verify that abbreviated dialing operates correctly with equal access calls.			
15	Verify that speed calling operates correctly with equal access calls.			
16	Verify that automatic number identification (ANI) can be turned on and off on a per carrier basis.			
17	Verify that treatment 'CACE' exists and can be applied properly.			
18	Verify that treatment 'D950' exists and can be applied properly.			
19	Verify that treatments 'N950','ILRS', 'NACD', and 'DACD' exist and can be applied properly.			

Gateway non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	MAP level tests on CPU synchronization, PS/DS card tests, etc.			
2	TTP tests on trunks ie. posting, holding seizing, etc.			
3	Monitor level tests, line side, drop side MW KVM tests,etc.			
4	Transmisson level tests, ie. tone det, tone gen, tst call, etc.			
5	Verify irregularities on N6 signalling CP and link management			
6	Verify irregularities on N5 signalling line and register.			
7	Verify irregularities on R1 signalling			
8	Verify proper recording of CDR records on printer and on tape.			

Gateway non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
9	Verify proper log messages for particular fail types.			
10	Verify operational measurements are obtained as requested: QUARTERLY HALF HOURLY DAILY, etc.			
11	Verify proper thresholds are set for all alarms on trunk group occupancy.			

IBN/MDC non-critical test (NTX100 IBN/MDC-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify following station features still work: a call transfer & 3WC b call fowarding-CFU,CFB,CFD c call pickup d call-waiting e speed calling - individual, group f Meet Me conference			
2	Verify AC functions still work: a AC to trk & trk to AC b Various ICI's can queue for the AC & are answered correctly. c AC HOLD functions d AC RECALL calls e AC conference f AC position busy g AC busy verification of trks & lines h AC camp-on i AC to AC from call forwarded lines j AC operational measurements k AC display			

IBN/MDC/Equal Access non-critical tests (NTX100 IBN/MDC-Basic/NTX186 Equal Access End Office)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Using a 500/2500 set make a DP call from a LCM to an outgoing ATC trunk on DTC dialing 9-10XXX-7 digits.			
2	Repeat step 1 dialling 9-10XXX-international.			
3	Repeat step 1 dialling 9-9501XXX.			
4	Repeat step 1 from a LM dialing 9-10XXX-7 digits.			
5	Repeat step 1 from a LM dialling 9-10XXX-0-10 digits			
6	Repeat step 1 from a LM dialling 9-9501XXX.			
7	Repeat step 1 from a RLM dialling 9-10XXX-10 digits.			
8	Repeat step 1 from a RLM dialling 9-10XXX-01-internat'l.			
9	Repeat step 1 from a RLM dialling 9-9501XXX.			

IBN/MDC/Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	From an ATT console on a LCM place a call to an outgoing trunk on DTC dialling 9-10XXX-7 digits.			
11	Repeat step 10 dialing 9-10XXX-10 digits.			
12	Repeat step 10 dialing 9-10XXX-international.			
13	Repeat step 10 dialing 9-10XXX-0-7 digits.			
14	Repeat step 10 dialing 9-10XXX-0-10 digits.			
15	Repeat step 10 dialing 9-10XXX-01-international.			
16	Repeat step 10 dialing 9 - 9501XXX.			
17	Place an incoming DTC call to a LM station.			

IBN/MDC/Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
18	Place an incoming DTC call to a LM ATT console.			
19	Place an incoming DTC call to a RLM station.			
20	Place an incoming TM8 call to a LCM station.			
21	Place an incoming DCM call to a LCM station.			
22	Place an incoming DTC call to a LCM station.			
23	Place an incoming DTC call to a LCM P-Phone.			
24	Place an incoming DTC call to a LCM ATT console.			

P-PHONE non-critical test (NTX089 Enhanced Coin Services)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Complete IBN/MDC non-critical feature tests as applicable			
2	Verify following P-Phone features still work: a call transfer & 3WC b call fowarding c call pickup d call-waiting e speed calling f automatic dial g ring again			
3	Verify calls to and from a MADN group terminate correctly.			

DMS-TOPS non-critical tests
(NTX030 TOPS Call Processing Features)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	From the FM TTY, key'P' and verify a position status summary is recv'd			

DMS-250 non-critical test

TEST NO	TEST DESCRIPTION	FROM LINE TYPE OR CLLI	TO CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify ATT function for auto, manual test setup, results (TL6N, T105, ATMS)			
2	Verify NWM PRE-RTE operational, and other controls REQ			
3	(USTS only) service analysis feature being operational			
4	Verify SYNCLK links SWACT successfully Note "RE-SYNC" time			
5	Verify LTC/DTC warm SWACT ability (no call interrupt)			
6	Verify KT pegging resolve problem CCT			
7	*** TOPS REQMT *** POS status summary, Verify OM pegging for 'TOPS', 'OFZ'			

DMS-MTX non-critical test

TEST NO	TEST DESCRIPTION	FROM: TRUNK TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	RESULT /REMARKS
1	Verify ATT function for auto, manual test setup, results			
2	Verify pool link "SWBCK" to assigned dedicated CSC link (non-pooled config)			
3	Verify CSC "XPM" SWACT execution. (no call interrupt)			
4	Verify SYNCLK links SWACT successfully Note "RE-SYNC" time			
5	Verify KT pegging resolve problem CCT			

DMS-100 International non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify flash ignore			
2	1FR OGT MF on TM CALL			
3	1FR OGT DP on TM CALL			
4	1FR OGT MF on DCM CALL			
5	1FR OGT DP on DCM CALL			
6	INC MF to 1FR DGT CLI idle call			
7	INC MF to 1FR DGT CLI busy call			
8	INC MF to line on operator intercept call			
9	INC to SYNC/ non-sync test line call			
10	INC to open CKT test line call			
11	INC to short CKT test line call			

DMS-100 International non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
12	INC to MW test line call			
13	INC to balance test line call			
14	INC to loop around PORT1 & 2 call			
15	Coin call PS/PD (CR)			
16	Coin call - vacant code ANN			
17	Coin call - DACS			
18	Coin call REPAIR DESK			
19	Coin call - intercept			
20	Coin call - OGT with answer			
21	Coin call _ OGT without answer (CR)			
22	Verify service analysis basic commands			
23	Verify LOGUTIL routing and reporting			

DMS-100 International non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
24	Map tests - PM LEVEL. For each each PM type as equipped, do the following tests: BSY-TEST-REMOVE controller card (0X70 for TM,MTM & OAU; 2X38 for DCM; 2X27 for LM & RLM) - test should fail) - replace controller card - reload - test - RTS . Do above on TM2 0, TM4 0, TM8 0, MTM 0, OAU 0, DCM 0, LM 0, RLM 0			*********** *With TELCO *approval *only ***********
25	Map tests - NET level Select a network pair and plane : perform BSY-TEST -RTS			
26	Map tests - LTP level post a line: DIAGN-BSY-RTS			
27	Map tests - TTP level post a trunk : Perform BSY-RTS -TEST (no parms)			

DMS-200 International non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify incoming intertoll to: 101 test line			
2	Verify service analysis basic commands			
3	Verify network management basic commands			
4	Map tests - PM level For each PM type as equipped, do the following tests: BSY-TEST-REMOVE OX7O - test (should) replace OX7O RELOAD-TEST-RTS Do above on TM 2 0, TM 4 0, TM 8 0, MTM 0, OAU 0, DCM 0			*********** *With TELCO * approval * only ***********

DMS-200 International non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	Map tests - net level Select a network pair and plane : Perform BSY-test -RTS.			
6	Map tests - TTP level Post a TRK:perform FORM BSY-RTS-TEST (no parms)			

Appendix D
Test Call Scripts

Chapter contents

Index of major feature packages

BCS testing procedure

The purpose of this section is to provide a test plan for the verification of the new software release. The tests are sequenced to ensure switch sanity and call processing stability.

The test plan consists of generic tests to be "datafilled" by the Telco/carrier site as applicable for the particular site (calling number, called number, and test results). Space is provided for the site to add additional tests as required.

Immediately following the "swact" the site should ensure that *Critical call processing tests* are initiated.

Following that, *AMA verification tests* (either NT or Bellcore formats) and *Metering verification tests* should be executed for the appropriate sites.

When executing the *Critical feature tests* it is the responsibility of the Telco/Carrier to ensure that service to high profile customers (for example: 911, police, fire, hospitals, and radio stations) is fully restored.

The information in this section is organized in the following manner:

- *Critical call processing tests* section is to be completed in the first 30 minutes.
- *AMA verification tests* section is to be initiated immediately after and in conjuntion with *Critical call processing tests*. This section is comprised of three subsections:
  - *Standard AMA tests using NT billing record formats*
  - *Standard AMA tests using Bellcore AMA formats*
  - Metering verification tests section
- *Critical feature tests* section is to be completed by 06:00 hours.
- *Non-Critical tests* section is to be completed by 09:00 hours.

Critical call processing tests

DMS-100 critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Check for dial tone on all LM's			
2	Verify all EAS outgoing routes			
3	Verify CAMA route for ANI 1&2 party			
4	Verify local tandem routes			
5	Verify '0' minus route			
6	Verify '0' plus route			
7	Verify '0' plus route using DTMF for ACCS features			
8	Verify '0' plus route using DP for operator access (no ACCS features)			
9	Verify DDO route			
10	Verify directory assistance (DA) route			
11	Verify ONI 1-7, 1-10 digits			

DMS-100 critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
12	Verify critical PBX routes (i.e. hospitals, etc.)			
13	Verify service CODE routes (i.e. 511, 911 etc.)			
14	Verify all switcher announcements, 60T, 120T			
15	Verify TOLL COMP (DTS) route			
16	Verify INC EAS routes			
17	Verify IFR intra-office call			
18	RLM tests: a) EAS outgoing (one route) b) '0' plus/minus c) CAMA ANI d) IFR INTRA RLM			
19	Verify operator intercept route			

DMS-200 critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify all incoming and outgoing intertoll routes			
2	Verify all toll COMP(DTS) routes			
3	Verify all machine announcements			
4	Verify incoming CAMA routes			
5	Verify ONI and ANIFAIL CAMA calls go to CAMA positions and complete			

AOSS critical call processing test (Auxiliary Operator Services System)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Return an AOSS position to service (BSY, RTS, etc.)			
2	Verify a DMODEM is attached to the data trunk of the position (AOSSPOSDATA)			
3	Verify login to an AOSSPOS with a valid operator no			
4	From a MF AOSS DA ANI type trunk place a 411 ANI call to AOSS (sei-zure - KP - 0 - 7D ANISPILL - ST)			
5	Verify call arrival tone display of 411, and correct booknumber at AOSS position. Enter a requested number and key 'POS RLS'.			
6	From an AOSS POS DA ONI type trunk place a 411 ONI call to AOSS seizure only)			

AOSS critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
7	Verify call arrival tone, display of 411, and CLG# header. Enter a requested number and 'POS RLS'. Verify call is not released until a valid calling number is entered.			

Datapath critical call processing test (NTX250 Datapath-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	At a data unit, press DN & verify: a) audible beep is returned when key is pressed b) DN lamp on solid c) dial tone is returned	NOTE: Ensure that baud rate switches on both data units are set to 9600 asynchronous		
2	Press Volume/UP & Volume/DOWN keys & verify volume increases and decreases			
3	Key in digits corresponding to the directory number of another data unit. Verify dial tone breaks and audible beep returned whenever a key is pressed.			
4	Verify audible ringing/warbling is returned to both originating and terminating data units			

Datapath critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	Verify while ringing/warbling is taking place: a) originator's DN lamp is on solid b) terminator's DN lamp is flashing c) NET CONNECT lamps on both data units flash			
6	Press terminating DN key and verify: a) ring/warble ceases on both data units b) both DN lamps are on solid c) both NET CONNECT lamps on solid d) a 2-way data path exists between data units (eg., send data from data terminal on one DU to another data terminal on the other DU) e) line state at LTP indicates CPB			

Datapath critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
7	Press terminator's RLS key and verify: a) line state returns to idle b) 2-way data path no longer exists c) both data units return to original idle state (eg., DTR and POWER/SYNC lit)			
8	Repeat steps 1 to 7, only RLS from originator			
9	Repeat steps 1 to 8, only set up call in opposite direction			
10	On a data unit set the AUTO ANSWER switch to AUTO			

Datapath critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
11	Terminate a call at that data unit and verify: a) it warbles momentarily b) DN lamp is lit c) warbling ceases d) call is automatically answered, NET CONNECT lamp is lit solid, and 2-way data path exists			
12	Repeat last two steps for several SYNCHRONOUS and ASYNCHRONOUS baud rate settings			
13	If BERT (Bit Error Rate Test) equipment is available, verify that acceptable error rate is obtained (eg., 10 exp-7)			

Equal Access critical call processing test (NTX186 Equal Access End Office)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify local tandem routes to the IC's point of presence are operational			
2	Verify direct ATC routes to the IC's point of presence are operational			
3	Complete a 10XXX-0 call to the appropriate IC operator route			
4	Complete a 10XXX-0 -7 digit intralata intrastate call (if intralata calls are allowed to complete)			
5	Complete a 10XXX-0 -7 digit interlata intrastate call			
6	Complete a 10XXX-0 -10 digit interlata intrastate call			
7	Complete a 10XXX-0 -10 digit interlata interstate call			
8	Complete a 10XXX - 01 - international call			

Gateway critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify all (idle) incoming and out-going R1 trunks			
2	Verify all (idle) incoming and out-going N5 trunks			
3	Verify all (idle) incoming and out-going N6 trunks			
4	Ensure all tones, group alarms and announcements function			
5	Verify proper link management functions on N6			
6	Verify proper trunk states and trunk recovery on call processing			
7	Verify proper trunk states and trunk recovery on CCITT #6			
8	Ensure calls may be processed from R1 to N5, N5 to R1 and R1 to R1			
9	Ensure calls may be processed from N5 to N5 (transit)			

Gateway critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	Ensure calls may be processed from N6 to N5, N6 to R1, N5 to N6, R1 to N6, and N6 to N6			
11	Verify warm restart effect on trunk states ie. trunks in CP, speech, idle, setup, takedown stages			
12	Verify cold restart effect on trunk states ie. trunks in CP, speech, idle, setup, takedown stages			

DMS-TOPS critical call processing tests (Traffic Operator Position System, NTX030 TOPS Call Processing Features)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Return 1 position to service (i.e. INB, MB, etc.)			
2	Verify DMODEM is attached to data trunk of position			
3	Return all HOBIC devices to service (HOBIC, AQ, VQ and record)			
4	Verify each device has DMODEM attached			
5	From MF combined TOPS trunk, place 1-ANI call (KP-NPA-NNX-7D-ST2P-KP-0-7D ANI SPILL - ST)			
6	Verify call terminates OK and speech path is good			
7	From MF combined TOPS trunk, place 0- ANI call (KP -NPA-NNX-7D-ST3P-KP-0-7D ANI SPILL - ST)			

DMS-TOPS critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
8	Call appears as 0- call.Wait for call to terminate & key 'RLS FWD' &'START' Outgoing portion drops and re-outpulses			
9	Verify call can be handled & floated by operator.Verify call terminates OK			
10	From MF combined TOPS trunk,place 0- ONI call (KP-ST3P-KP-1-ST)			
11	Call appears as 0 call. Verify call can be handled properly by the operator and terminates OK.			
12	Repeat step 10 & 11 from dedicated non-coin trunk			
13	From MF combined TOPS trunk, place 1- HOTEL call (KP-NPA-NNX-7D-ST2P-KP-6 -7D ANI SPILL- ST)			

Datapath critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
14	Call appears as 1- hotel call.Verify it be handled properly by the operator and terminates OK. On completion of call, HOBIC devices should record it.			
15	Repeat steps 13 & 14 from a dedicat- ed hotel trunk.			
16	From MF combined TOPS trunk, place 0- COIN call (KP-NPA-NNX-7D STP-KP-0 -7D ANI SPILL- ST)			
17	Call appears as 0- coin pre call. Verify it is hand- led properly by the operator and terminates OK.			
18	Do flash recall from originator. Verify call comes back as 'RCL'.Key 'POS RLS'. Wait 3 mins. & ensure call arrives NFY 3			
19	Repeat step 17 & 18 from dedicated coin trunk.			

Datapath critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
20	From the FM TTY, enable a transfer (XA1)			
21	Verify that: a) IC screen is up-dated to include transfer format b) FM CRT screen is updated to include transfer format c) FM TTY position status summary is updated to include transfer format (key P)			
22	Key 'L' from T0 TTY. Verify a message is received at the TTY showing the logged in operators			

DMS-250 critical call processing test

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify all service CCTS IDLE/INI STATE (ANNS, RCVRDGT, RCVRMF, RCVRATD, TTT, TTU, T102T)			
2	Verify all (IDLE) customer trunks (ONAL, ONAT, EANT) NO "PMB,CFL" states			
3	Verify all (IDLE) network trunks (IMT, DAL, DAL-TIE) NO "PMB,CFL" states			
4	Confirm EANT OFFNET call processing (ORIG 7D,10D W/ANS)			
5	Confirm EANT ONNET call processing (ORIG 7D,10D W/ANS)			
6	Confirm (ONAL,DAL) OFFNET call processing (7D, 10D W/ANS)			
7	Confirm (ONAL,DAL) ONNET call processing (7D, 10D W/ANS)			
8	Confirm IMT,ONAT W/ "SAT" call processing (ORIG W/SAT _ Y)			
9	Verify OCC billing record incrementing (DIRP: QUERRY OCC)			

DMS-250 critical call processing test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	Ensure all tones, group alarms, and ANNMNTS operational			
11	Verify 6/7 digit AUTHCODE W/ACCSCRN (note CDR results)			
12	Verify speed number calls can process (7D, 10D - CDR REF)			
13	Confirm IDDD call originations and terminations W/ANS 7D, 10D ON/OFFNET			
14	*** TOPS REQMT *** Verify call routing I) ORIG ANI CALLS II) ORIG ONI CALLS			
15	*** TOPS REQMT *** Verify TOPS calls can be completed (7D,10D ON/OFFNET)			

DMS-100 International critical call processing tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Check for dial tone on all lcm's			
2	Verify Local Metered Call			
3	Verify National Metered Call			
4	Verify Intern. Metered Call			
5	Verify DIR. DIAL Queque (03)			
6	Verify DIR. DIAL Immed. (09)			
7	Verify directory assistance (DA) route (01)			
8	Verify critical PBX routes hospitals (77)			
9	Verify critical PBX routes fire (00)			
10	Verify service code routes Repair (02)			
11	Verify all switcher announce-ments, 60T, 120T			
12	Verify toll comp route			

DMS-100 International critical call processing tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
13	Verify inc routes			
14	Verify IFR intraoffice call			
15	Check PS and DS			

AMA verification tests

Automatic Messaging Accounting (AMA) verification tests provide test calls to ensure all aspects of the AMA feature function correctly.

Beginning with BCS 29 and higher BCSs, offices can be configured for AMA recording in the Bell Communications Research (Bellcore) format. The Northern Telecom (NT) AMA format is used in many offices. Two versions of AMA verification tests are provided depending on the AMA format (NT AMA format or Bellcore AMA format) used in the office. For more information on the two formats refer to:

- NTP 297-1001-128 (Bellcore AMA format)
- NTP 297-1001-119 (NT AMA format)

Regardless of which format is used in the office the AMA verification tests for both AMA formats consists of the following:

- Series of test calls (call scripts) is made.
- An AMA program is used to dump the AMA tape or disk file containing the records for the test calls.
- The dumped AMA information is compared for each test call made.
- If the dumped AMA information is correct for each test call, the AMA feature is functioning properly.

Standard AMA tests using NT billing record formats

For the NT billing format a total of 30 call scripts have been established as a standard package. However, the Telco may add or delete call scripts based on job requirements and feature availability.

Before beginning the tests each call script should be filled with the calling and called telephone numbers plus the ANI spill when different from the calling number.

After the call scripts are completed, the AMA tape is printed using a non-resident program called AMADUMP. The AMA tape data entries are then compared.

Using the AMADUMP program, the following AMA tape entries should be verified for each call script (see NTP 297-1001-119 for a detailed explanation):

1. Entry code
2. Information Digits
3. Service Feature Code
4. Event Information Digit
5. Answer Time (day and time)
6. Conversation Time
7. Called Number
8. Calling Number

The following NOTES are provided for the following call scripts to indicate call set-up configuration, optional tests, etc.

(1) This test is considered optional and to be executed at the Telco's discretion.

(2) This test call is to originate from a NEE TTS 59B (BLUE BOX) or equivalent connected to a analog incoming Cama trunk.

(3) This test call is to originate from any end office. To provide this it is suggested end office telephone lines be provided at the DMS toll office.

(4) Call a telephone number that will not provide an answer condition.

(5) Request directory assistance operator to disconnect first.

(6) Obtain a special billing number from the traffic department.

(7) SWAPS - system wide area paging system

(8) Refer to the traffic equipment circular for a Multi Voice Com calling number and ANI id.

(9) The 'call attempt feature' is turned on by table OFCPARM position NO_ANS_CALLS_ON_TAPE set to 'Y'.

Standard AMA tests using NT billing record formats

TEST NO	CALL INFORMATION	Entry Code	Info Digit	Serv Feat Digit	Event Info Digit	CAMA Susp	Call Dura-tion
1	STATION PAID DDD (Note 3) ani, origin. disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	00	no	15 sec
2	STATION PAID DDD (Note 3) ani, termin. disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	01	no	20 sec
3	INWATS (Note 3) ani, origin. disconnect Called Number 1-800-___-____ Calling Number ___-____	00	20	00	00	no	60 sec

Standard AMA tests using NT billing record formats (continued)

TEST NO	CALL INFORMATION	Entry Code	Info Digit	Serv Feat Digit	Event Info Digit	CAMA Susp	Call Dura-tion
4	SWAPS (Note 1,3) ani, origin. disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	00	no	10 sec
5	TWX (Note 1,2) ani, origin. disconnect Called Number kp-610-___-____-st Calling Number kp-0-___-____-st	08	20	00	00	no	15 sec
6	SWAPS (Note 1,3) oni, termin. disconnect Called Number 1-___-___-____ Calling Number ___-____	00	24	00	01	no	12 sec
7	OUTWATS (Note 3) ani, termin. disconnect Called Number 1-___-___-____ Calling Number ___-____	11	2	0	01	no	10 sec
8	OUTWATS (Note 1,2) ani fail, origin. disconnect Called Number kp-___-___-____-st Calling Number kp-2-___-____-st	11	25	00	00	no	25 sec
9	MULTI VOICE COM (Note 1,2,8) ani, origin. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	15	20	00	00	no	10 sec
10	MULTI VOICE COM (Note 1,2,8) ani fail, origin. disconnect Called Number kp-___-___-____-st Calling Number kp-2-___-____-st	15	25	00	00	no	15 sec
11	MULTI VOICE COM (Note 2) oni, origin. disconnect Called Number kp-___-___-____-st Calling Number kp-1-___-____-st	15	24	00	00	no	10 sec

Standard AMA tests using NT billing record formats (continued)

TEST NO	CALL INFORMATION	Entry Code	Info Digit	Serv Feat Digit	Event Info Digit	CAMA Susp	Call Dura-tion
12	STATION PAID DDD (Note 2) ani/service observed origin. disconnect Called Number kp-___-___-____-st Calling Number kp-3-___-____-st	00	30	00	00	no	10 sec
13	STATION PAID DDD (Note 2) ani fail/service observed origin. disconnect Called Number kp-___-___-____-st Calling Number kp-5-___-____-st	00	31	00	00	no	30 sec
14	STATION PAID DDD (Note 2) oni/service observed origin. disconnect Called Number kp-___-___-____-st Calling Number kp-4-___-____-st	00	34	00	00	no	25 sec
15	STATION PAID DDD (Note 3,4,9) ani, origin. disconnect call attempt feat 'on' Called Number 1-___-____ Calling Number ___-____	00	20	00	00	no	15 sec 02
16	STATION PAID DDD (Note 3) ani, origin. disconnect Called Number 1-555-1212 Calling Number ___-____	00	20	00	00	no	15 sec
17	STATION PAID DDD (Note 3,5) ani, termin. disconnect Called Number 1-___-555-1212 Calling Number ___-____	00	20	00	01	no	15 sec
18	STATION PAID DDD (Note 1,2) ani fail, origin. disconnect Called Number kp-___-___-____-st Calling Number kp-2-___-____-st	00	25	00	00	yes	10 sec

Standard AMA tests using NT billing record formats (continued)

TEST NO	CALL INFORMATION	Entry Code	Info Digit	Serv Feat Digit	Event Info Digit	CAMA Susp	Call Dura-tion
19	STATION PAID DDD (Note 1,2) oni, origin. disconnect Called Number 1-___-____ Calling Number ___-____	00	24	00	00	yes	10 sec
20	STATION PAID DDD (Note 1,2) ani, blue box fraud/ans/ orig. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	00	20	00	04	no	20 sec
21	STATION PAID DDD (Note 1,2) ani, blue box fraud/ans/ term. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	00	20	00	05	no	25 sec
22	STATION PAID DDD (Note 1,2) ani, blue box fraud/ no ans/orig. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	00	20	00	06	no	30 sec
23	STATION PAID DDD (Note 1,2) ani, blue box fraud/ no ans/term. disconnect Called Number kp-___-___-____-st Calling Number kp-0-___-____-st	00	20	00	07	no	25 sec
24	INWATS (Note 3) oni, origin. disconnect Called Number 1-800-___-____ Calling Number ___-____	00	24	00	00	no	35 sec
25	STATION PAID DDD (Note 3,6) oni, orig. disc. special billing no. Called Number 1-___-___-____ Calling Number ___-____	00	24	00	00	no	40 sec

Standard AMA tests using NT billing record formats (continued)

TEST NO	CALL INFORMATION	Entry Code	Info Digit	Serv Feat Digit	Event Info Digit	CAMA Susp	Call Dura-tion
26	INWATS (Note 2) oni/service observed, origin. disconnect Called Number kp-___-___-____-st Calling Number kp-4-___-____-st	00	34	00	00	no	30 sec
27	INWATS (Note 2) ani/service observed, origin. disconnect Called Number kp-___-___-____-st Calling Number kp-3-___-____-st	15	30	00	00	no	20 sec
28	STATION PAID DDD (Note 3) ani, origin. disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	00	no	180 sec
29	STATION PAID DDD (Note 3) ani, origin. disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	00	no	300 sec
30	STATION PAID DDD (Note 3) ani, origin. disconnect Called Number 1-___-___-____ Calling Number ___-____	00	20	00	00	no	1 sec

Standard AMA tests using Bellcore AMA format (NTX098 Bellcore CAMA Format/NTX159 Bellcore LAMA Format)

The Bellcore AMA format identifies each type of call by a call code. Each call code uses a number of different structure codes depending upon the attributes of the call. The *Standard AMA tests using Bellcore AMA format* table consists of 21 different call tests. Each call test is identified by a call code. Use this set of call scripts for the office if configured for the Bellcore AMA format. The telephone company may add or delete call scripts based on job requirements and feature availability.

After the call scripts are completed, the AMA tape may be printed by using a non-resident program called AMADUMP. The AMA tape data entries are then compared. (See NTP 297-1001-128 for a detailed explanation.)

Reference: NTP 297-1001-128 (Bellcore AMA format)

Standard AMA tests using Bellcore AMA format

TEST NO	CALL INFORMATION	Call Code	Call Feature
1	station paid ddd	006	ani, origin. disconnect
2	station paid ddd	006	ani, termin. disconnect
3	inwats	008	ani, origin. disconnect
4	outwats	068	ani, termin. disconnect
5	outwats	068	ani fail, origin. disconnect
6	station paid ddd	006	ani/service observed, origin. disconnect
7	station paid ddd	006	ani fail/service observed, origin. disconnect
8	station paid ddd	006	oni/service observed, origin. disconnect

Standard AMA tests using Bellcore AMA format (continued)

TEST NO	CALL INFORMATION	Call Code	Call Feature
9	station paid ddd	006	ani, origin. disconnect, unanswered call recording
10	directory assistance 555-1212	033	ani, originating disconnect
11	station paid directory assistance NPA-555-1212	006	ani, termin. disconnect
12	station paid ddd	006	ani fail, origin. disconnect
13	station paid ddd	006	oni, origin. disconnect
14	inwats	008	oni, origin. disconnect
15	station paid ddd	006	oni, originating disconnect, special billing number
16	inwats origin. disconnect	008	oni, service observed,
17	outwats origin. disconnect	068	ani, service observed,
18	station paid ddd	006	ani, origin. disconnect, duration_1 second
19	multi-unit message rate	001	detailed billing, timed, origin. disconnect
20	multi-unit message rate	001	detailed billing, timed, termin. disconnect

Standard AMA tests using Bellcore AMA format (continued)

TEST NO	CALL INFORMATION	Call Code	Call Feature
21	multi-unit message rate	002	bulk billing, timed, origin. disconnect
22	multi-unit message rate	002	bulk billing, timed, termin. disconnect
23	multi-unit message rate	003	detailed billing, untimed, origin. disconnect
24	multi-unit message rate	003	detailed billing, untimed, termin. disconnect
25	multi-unit message rate	004	bulk billing, untimed, origin. disconnect
26	multi-unit message rate	004	bulk billing, untimed, termin. disconnect
27	directory assistance 411	009	ani, origin. disconnect

Metering verification tests

The metering Verification test section provides test calls to ensure all aspects of the metering feature function correctly.

These call scripts have been established as a recommendedstandard package. However, the Telco may add or delete call scripts based on job requirements and feature availability.

Before beginning the tests each call script should be filled with the calling and metering information.

After the call scripts are completed, the Billing tape is printed using a non-resident program. The Billing tape data entries are then compared.

Verify basic call processing on LCM with BCS21 LCM load.

Here are two test cases for simple metering verification:

1 LINE TO LINE METERING

- **a.** Select a line with an SPM.
- **b.** At map post the line, then enter COUNTS and note meter value.
- **c.** Determine the current tariff rate for a LOCAL line to line call.
- **d.** Make a line to line call from the line with SPM.
- **e.** Leave the call up for a sufficient length of time for meter pulses to be sent.
- **f.** Terminate the call and record new meter count.
- **g.** Verify the meter count is correct for the current tariff and that the SPM value agrees with the meter count to within one pulse.

2 LOCAL COIN - BASIC CALL

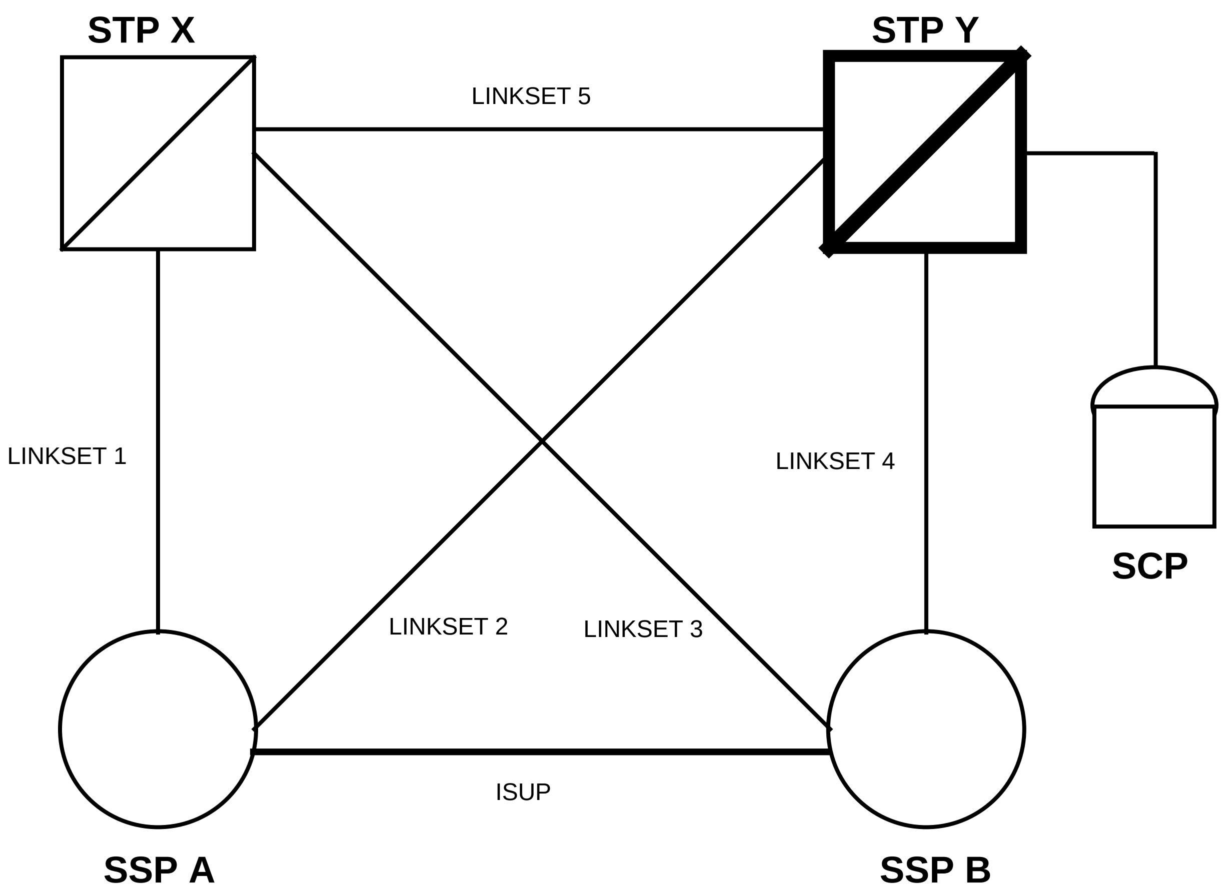
- **a.** Verify the coin line has a LCC _ COIN.
- **b.** Verify metering assigned (QDN -> SPM option).
- **c.** Go off hook; verify dial tone, red light on.
- **d.** Attempt to dial; verify ignored.
- **e.** Deposit coin; dial tone not interrupted.
- **f.** Make a local call; verify ringing.
- **g.** Answer call; verify coin collect, red light off.
- **h.** Verify additional meter pulses, credits used.
- **i.** Three loud tones; last credit starts.
- **j.** Verify additional coins accepted.
- **k.** Verify call is cut-off when last credit expires.

DMS-STP verification tests

These tests are recommended to be run at the following times:

- Prior to loading peripherals with the new BCS level loads.
- After loading peripherals with the new BCS level loads.
- After swact to the new BCS level load on the STP, while the STP is still OUT-OF-SYNC.

Figure 1
STP Y is getting the software upgrade



STP verification test cases (NTX832 DMS-STP Basic/NTX833 STP Operations)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
1	Verify ROUTING, DATABASE services, and CLASS features funtionality. (Reference Figure 1.)	
	a) Inhibit all links in LINKSET 1 (from SSP A)	
	b) At STP Y verify that route to SSP A via STP X is marked TFP (TFP = transfer prohibited)	
	c) At SSP B verify that route to SSP A via STP X is marked TFR (TFR = transfer restricted)	
	d) Perform DATABASE QUERY from SSP A to SCP (e800, accs, etc.)	
	e) Place several calls from SSP A to SSP B and verify that calls complete (isup)	
	f) Place calls from SSP A to SSP B via ACB/AR and verify that calls complete (ACB = automatic call back, AR = automatic recall)	
	g) Place calls from SSP B to SSP A and verify that calls complete (isup)	
	h) Place calls from SSP B to SSP A via ACB/AR and verify that calls complete	
	i) Uninhibit all links in LINKSET 1 (from SSP A)	
	j) Inhibit all links in LINKSET 2 (from SSP A)	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
	k) At STP X verify that route to SSP A via STP Y is marked TFP	
	l) At SSP B verify that route to SSP A via STP Y is marked TFR	
	m) Perform DATABASE QUERY from SSP A to SCP (e800, accs, etc.)	
	n) Place several calls from SSP A to SSP B via ACB/AR and verify that calls complete	
	o) Place calls from SSP B to SSP A via ACB/AR and verify that calls complete	
	p) Uninhibit all links in LINKSET 2	
2	Verify LINKSETS	
	a) Perform INSV test on a link in a linkset	
	b) Inhibit the link	
	c) BSY the link	
	d) Deact the link	
	e) Perform LIU7 main-tenance test on associated LIU7 (see test 3)	
	f) RTS the link	
	h) ACT the link	
	g) Uninhibit the link	
	h) Perform INSV test on the link	
	i) Go to test 4	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
3	Verify LIU7 a) Perform INSV test on the LIU7 AFTER THE ASSOCIATED LINK IS OUT-OF-SERVICE: b) BSY the LIU7 c) Perform out-of-service test on the LIU7 d) Reload the LIU7 e) PMRESET the LIU7 f) Perform out-of-service test on the LIU7 g) RTS the LIU7 h) Perform INSV test on the LIU7 i) Return the associated link to service. (Go to test 2f)	
4	Verify FBUS a) Perform INSV test on an FBUS b) Perform INSV test on a TAP c) BSY the TAP d) Perform out-of-service test on the TAP e) Ensure the associated LIU7 is ISTB due to MANB TAP f) RTS the TAP g) Perform INSV test on the TAP h) Ensure the associated LIU7s are inservice	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
5	Verify LIM a) Perform INSV test on the LIM b) Bsy one unit of the LIM c) Perform out-of-service test on the unit d) Reload the unit e) PMRESET the unit f) RTS the unit g) Perform INSV test on the unit	
6	Verify EIU for MDR7 a) Take the associated MDR7 instance out-of-service b) Perform INSV test on the EIU c) Bsy the EIU d) Perform out-of-service test on the EIU e) Reload the EIU f) PMRESET the EIU g) Perform out-of-service test on the EIU h) RTS the EIU i) Perform INSV test on the EIU j) Return the associated MDR7 instance to service	

STP verification test cases (continued)

TEST NO	TEST DESCRIPTION	TEST RESULT /REMARKS
7	Verify SEAS feature functionality a) Check the connection by verifying the MPCs (Multi-Protocol-Controller) are ENBLD (post both MPCs associated with SEAS) b) Verify PVCs (Permanent Virtual Circuits) are INSV (PVC MAP level) c) Check that X.25 levels (OSI layers 1, 2 and 3) are established by verifying the PVCs (Permanent Virtual Circuits) are INSV (PVC MAP level) d) Check the SEAS application by verifying that SEAS is INSV (SEAS MAP level) e) Make sure the application-application connections are established by verifying all PVCs are INSV (PVC level of SEAS)	

Critical feature tests

DMS-100 critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify ground start			
2	Verify hunting - (MLH,DNH)(option CIR, LIN)			
3	Verify stop hunt (SHU)			
4	Verify bridge night number			
5	Verify COIN - CC, CR on IAO and EAS calls			
6	Verify coin control TROL- CC, CR ON operator call (0 - -)			
7	Verify 2FR - IAO, EAS revertive (TIP & RING)			
8	Verify multiparty - IAO, EAS REVER- TIVE (TIP & RING)			
9	Verify 4FR ANI			
10	Verify 1MR - PEG routes, NON PEG routes			
11	Verify one alternate route, routes correctly			

DMS-100 critical feature tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
12	Verify PS/PD line routes correctly to LKOUT			
13	Verify OM routing and reporting			
14	Verify each LCC can originate and terminate with Digitone and Digipulse™			
15	RLM tests repeat tests 1, 5, 6, 7, 12 and 14			
16	Verify DTDETECT			
17	Verify acces to all map levels			
18	Verify special billing (SPB)			
19	Verify service orders			
20	Verify table editor			

DMS-200 critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify one alternate route routes correctly			
2	Verify OM routing and reporting			
3	Verify access to all map levels			
4	Verify table editor basic commands			

AOSS critical feature test

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	From an OIC type AOSS trunk place a 411 ANI call. (KP-OIC-ST - KP - 0 - 7D ANISPILL - ST)			
2	Verify call arrival tone, display of 411 and correct booknumber at position. Enter a requested number. Verify call can be released without entering a CLG# by keying 'NC' (No Charge) & 'POS RLS'			
3	From an intertoll trunk (originating within home NPA) place a 555-1212 call to AOSS. Verify call comes to position identified as 'HOM'. Enter a CLG# and 'POS RLS'.			
4	From an intertoll trunk (originating within foreign NPA) place a 555-1212 call to AOSS. Verify call comes to position identified as 'FOR'. POS RLS.			
5	Verify ability of l AOSS calls to queue for an available position.			

AOSS critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
6	RTS an AOSS TRAFFIC OFFICE TTY (TADS) key 'L'. Verify a message is received at the TTY showing the logged in operators.			
7	Verify AMA for all calls above.			
8	RTS T.O. TTY, FM CRT, FM TTY, Assistance and Incharge positions.			
9	From an AOSS DA ANI type trunk place a 411 call to AOSS (seizure - KP-0-7D - ANISPILL - ST).			
10	Verify call arrives at AOSS operator position; place a general set call.			
11	Verify set call arrives at the Assistance position. Verify the assistant, operator, and customer can talk to each other.			
12	Release call from assistance and complete call at general position.			

AOSS critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
13	Repeat above test, making a directed set call to an Incharge position Float call to Incharge and release call.			

Gateway critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify functionality of MAP, TTPs and attendant resources (for all maintenance levels).			
2	Verify functionality of CDRs, oms, LOGS, subsystems.			
3	Verify functionality of all test lines for national and international types.			
4	Verify functionality of all test lines for TASI,SAT OVERIDE, NWM,SA,FEATURES.			
5	Verify functionality of cancel repeat attempts and code blocking.			
6	Verify calls will reroute or reattempt upon encountering troubles (R1,N5,N6)			
7	Verify all table editor features are functional.			
8	Verify DMO changes and data updates may be made.			

IBN/MDC critical feature test (Meridian Digital Centrex, NTX100 IBN/MDC-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Observe from the LOGS all consoles in the office have returned to the status they were before the reload			
2	Ensure the console to be used in testing, can be RTS & verify the night service LED is on (console unjacked).			
3	Verify all customer groups correctly respond to their listed DN dialed e.g. night service or att service.			
4	Verify: a) IBN/MDC station to IBN/MDC station calls terminate correctly b) IBN/MDC station to IBN/MDC trunk calls(MF,DP, DTMF) calls terminate correctly c) IBN/MDC trk to IBN/MDC station calls ter-minate correctly. d) IBN/MDC trk to IBN/MDC trunk calls terminate correctly.			

IBN/MDC critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	JACK_IN to the test console and make it available to rcv calls.			
6	Make zero call to the attendant & answer it. Verify speech connection Extend call to: a) another IBN/MDC stn b) an IBN/MDC trunk.			
7	Access an idle loop at the TC. Make AC to IBN/MDC line call. Answer it. Key the digits of another IBN/MDC station and answer it. Verify speech paths from all 3 connections Release the call from the AC and verify the 2 stations are connected. Release the call.			
8	Verify DOD access, Centrex & PBX.			
9	Verify Toll calls are recorded.			
10	If SMDR is appli-cable, verify SMDR is working.			
11	Verify a diagnostics to the AC works.			

IBN/MDC critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
12	Verify interposition calling and PBX.			

P-PHONE critical feature tests (NTX089 Enhanced Coin Services)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Complete IBN/MDC critical feature tests as applicable.			
2	Verify the following calls terminate correctly: a) P-Phone to attendant b) P-Phone to IBN/MDC station c) P-Phone to IBN/MDC trunk d) P-Phone to P-Phone e) Attendant to P-Phone f) IBN/MDC station to P-Phone e) IBN/MDC trunk to P-Phone			

DMS-TOPS critical feature tests (NTX030 TOPS Call Processing Features)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	RTS traffic office TTY,FM CRT,FM TTY, assistance pos. & Incharge pos.			
2	From MF combined trunk group , place 0- ANI call (KP-ST3P-KP-7D ANI SPILL- ST)			
3	Verify call arrives at TOPS operator pos.			
4	Place general set call.			
5	Verify set call arrives at the Assistance pos. Verify the assistant,operator & customer can talk to each other			
6	Release call from assistance operator.			
7	Complete call using the TOPS operator position.			

DMS-250 critical feature test

TEST NO	TEST DESCRIPTION	FROM LINE TYPE OR CLLI	TO CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify EANT ANI screening functions I) Invalid "NXX" ANI SPILL TRMT II) Restricted call routing access (Note CDR results)			
2	Verify "#" / "*" re-dial features ONAL,DAL,ONAT,EANT			
3	Verify hotline call routing functions I) dedicated II) conditional			
4	Verify CF3P/CF6P call setup, ANS, re-dial, disconnect			
5	Verify (IMT, ONAT) route advance FUNC. (SAT RTE, PART'NED)			
6	Verify CDR search on call records functions correctly			
7	Verify NEMAS/AOM link access, file transfer operation			
8	Confirm MM access: I) all map levels II) table editor III) DMO, JF INCREMT IV) CDR, OM LOG REPS V) map test lines			

DMS-250 critical feature test (continued)

TEST NO	TEST DESCRIPTION	FROM LINE TYPE OR CLLI	TO CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
9	*** TOPS REQMT *** Verify TOPSPOSDATA CCTS operational with console functions			

DMS-100 International critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify ground start			
2	Verify hunting- (DNH) option CIR)			
3	Verify bridge night number			
4	Verify local coin calls			
5	Verify 1MR - peg routes, non peg routes			
6	Verify one alternate route, routes correctly			
7	Verify PS/PD line routes correctly to LKOUT			
8	Verify OM routing and reporting			
9	Verify each LCC can originate and terminate			
10	Verify access to all map levels			
11	Verify special billing (SPB)			
12	Verify service orders			

DMS-100 International critical feature tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
13	Verify table editor			

DMS-200 International critical feature tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify one alternate route routes correctly			
2	Verify OM routing and reporting			
3	Verify access to all map levels			
4	Verify table editor basic commands			

Non-critical tests

DMS-100 non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify coin touch tonepad disabling			
2	Verify flash ignore			
3	1FR OGT MF ON TM call			
4	1FR OGT DP ON TM call			
5	1FR OGT MF ON DCM call			
6	1FR OGT DP ON DCM call			
7	EAS INC MF to 1FR DGT CLI idle call			
8	EAS INC MF to 1FR DGT CLI busy call			
9	EAS INC MF to line on operator intercept call			
10	* EAS INC to SYNC/ NON-SYNC test line call		* Not needed for ISUP (CCS7) TRK	
11	* EAS INC to OPEN CKT test line call		* Not needed for ISUP (CCS7) TRK	
12	* EAS INC to SHORT CKT test line call		* Not needed for ISUP (CCS7) TRK	

DMS-100 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
13	EAS INC to MW test line call			
14	EAS INC to BALANCE test line call			
15	EAS INC to LOOP AROUND port 1 & 2 call			
16	CDF or CCF coin call -PS/PD(CR)			
17	CDF or CCF coin call - vacant code ann (CR)			
18	CDF or CCF coin call - DACS (CR)			
19	CDF or CCF coin call - repair desk (CR)			
20	CDF or CCF coin call - intercept (CR)			
21	CDF or CCF coin call - OGT with answer (CR)			
22	CDF or CCF coin call- OGT without answer (CR)			
23	#3LTC or CALRS or equivalent - post DGT idle line			

DMS-100 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
24	#3LTC or CALRS or equivalent - post DGT busy(talking) line			
25	Verify service analysis basic commands			
26	Verify LOGUTIL routing and reporting			
27	MAP tests - PM level. For each PM type below equipped, do the following tests: * * * * * * * * WARNING: With TELCO approval only * * * * * * * * BSY - TEST - REMOVE controller card (OX70 for TM, MTM & OAU; 2X38 for DCM 2X27 for LM & RLM) - test should fail - replace controller card - RELOAD - TEST - RTS Do above on TM2 0, TM4 0, TM8 0, MTM 0 OAU 0, DCM 0, LM 0, RLM 0			

DMS-100 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
28	Verify the folowing features work: a) 3we b) efw - regular, remote & remote equal acced c) cwt d) speed calling			
29	Map tests - net level Select a network pair and plane : Perform BSY-TEST -RTS			
30	Map tests - LTP level Post a line: DIAGN-BSY-RTS			
31	Map tests - TTP level Post a trunk : Perform BSY-RTS -TEST (no parms)			

DMS-200 non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify incoming CAMA TO: 101 test line 102 test line 103 test line 104 test line 108 test line			
2	Verify incoming intertoll to: 101 test line 102 test line 103 test line 104 test line 108 test line			
3	Verify service analysis basic commands			
4	Verify network management basic commands			
5	MAP tests - PM level. For each PM type below equipped, do the following tests: * * * * * * * * WARNING: With TELCO approval only * * * * * * * * BSY - TEST - REMOVE controller card (OX70) - test should fail - replace OX70 card - RELOAD - TEST - RTS Do above on TM 2 0, TM 4 0, TM 8 0, MTM 0, OAU 0, DCM 0			

DMS-200 non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
6	Map tests - NET level Select a network pair and plane : Perform BSY-TEST -RTS.			
7	Map tests - TTP level Post a trunk:perform BSY-RTS-TEST (no parms)			

AOSS non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	From the FM TTY, key 'P' and verify a position status summary is received.			
2	Verify OM pegs in OM group: 'AOSS are being incre-mented for work volume, initial position seizures, and calls waiting queue usage.			

ATT100 non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Make a coin line to TSPS call. Verify expanded inband signalling coin collect, return, ringback, operator release, operator-attached function operation.			
2	Verify AMA record on a MUMR call			
3	Verify correct register pulsing on a hotel/motel line.			
4	Verify that a 2-party or 4-party ANI line with DOR not originate.			
5	Verify that a 2 or 4 party ANI line with SUS may not originate or be terminated on.			
6	Make a coin call with an insufficient coin deposit.			
7	Verify that coin call totalizer operation is correct.			

Datapath non-critical tests (NTX250 Datapath-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Ensure that data unit switches are set as follows: Manual Answer Manual Origination Self Test off Far End Loopback off Local Loopback off Internal Clock Adaptive Profile off Buzz soft Assert DTR off Assert RTS off 9600 BAUD ASYNC			
2	Connect Data Terminal Equipment with the following settings to both data units: 9600 Baud Async No Parity On Line Full Duplex			
3	Ensure that POWER/SYNC and DTR lamps on data units are lit.			
4	Verify that the POWER/SYNC lamp flashes if the jack is unplugged, and the POWER/SYNC lamp lights solid within 2 sec. when the jack is plugged in.			

Datapath non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	At LTP level of MAP POST a data unit line and verify that line is posted.			
6	Diagnose line and verify the following: a) line state changes to 'MB', b) UNDER TEST lamp is lit on data unit, c) diagnostic passes, d) UNDER TEST lamp turns off and line state returns to idle			
7	Turn the SELF TEST switch on momentarily and verify: a) POWER/SYNC and UNDER TEST are only lamps lit, b) all lamps are lit after several sec., c) data unit returns to its previous state.			

ESN non-critical test
(Electronic Switched Network)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify calls from IBN/MDC line using: a) network speed call b) variable outpulsing types on a trunk c) tone detection route d) authorization code e) queuable routes f) route with ESN protocol			
2	Verify that Time of DAY routing is using proper routes for the current time of day.			
3	Verify operation of the DISA feature			
4	Verify access through virtual facility groups.			
5	Verify proper timeouts in digit collection on various access codes			

Equal Access non-critical tests (NTX186 Equal Access End Office)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Complete a 10XXX 7 digit intralata intrastate call (providing intralata calls are allowed to complete).			
2	Complete a 10XXX-1 -7 digit interlata intrastate call.			
3	Complete a 10XXX-1 -10 digit interlata intrastate call.			
4	Complete a 10XXX- -10 digit interlata interstate call.			
5	Complete a 10XXX-0 -10 digit world zone 1 call.			
6	Complete a 10XXX-1 -10 digit world zone 1 call.			
7	Complete a 10XXX - 011 - international call.			
8	Repeat tests 1 through 7 and verify that both feature group C and feature group D calls complete correctly.			

Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
9	Repeat tests 1 through 7 using either an interim or transitional carrier dialing 950 1XXX and verify that the calls complete correctly.			
10	For tests 1 through 9 verify that the correct AMAB logs and AMA records are output.			
11	Verify that all existing trunk logs reflect the correct equal access information in the new corresponding fields.			
12	Verify that operational measurements correctly pegs equal access calls and failures.			
13	Verify that TSMS correctly pegs equal access calls and failures.			
14	Verify that abbreviated dialing operates correctly with equal access calls.			

Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
15	Verify that speed calling operates correctly with equal access calls.			
16	Verify that automatic number identification (ANI) can be turned on and off on a per carrier basis.			
17	Verify that treatment 'CACE' exists and can be applied properly.			
18	Verify that treatment 'D950' exists and can be applied properly.			
19	Verify that treatments 'N950','ILRS', 'NACD', and 'DACD' exist and can be applied properly.			

Gateway non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	MAP level tests on CPU synchronization, PS/DS card tests, etc.			
2	TTP tests on trunks ie. posting, holding seizing, etc.			
3	Monitor level tests, line side, drop side MW KVM tests,etc.			
4	Transmisson level tests, ie. tone det, tone gen, tst call, etc.			
5	Verify irregularities on N6 signalling CP and link management			
6	Verify irregularities on N5 signalling line and register.			
7	Verify irregularities on R1 signalling			
8	Verify proper recording of CDR records on printer and on tape.			
9	Verify proper log messages for particular fail types.			

Gateway non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	Verify operational measurements are obtained as requested: QUARTERLY HALF HOURLY DAILY, etc.			
11	Verify proper thresholds are set for all alarms on trunk group occupancy.			

IBN/MDC non-critical test (NTX100 IBN/MDC-Basic)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify following station features still work: a) call transfer & 3WC b) call fowarding-CFU,CFB,CFD c) call pickup d) call-waiting e) speed calling - individual, group f) Meet Me conference			
2	Verify AC functions still work: a) AC to trk & trk to AC b) Various ICI's can queue for the AC & are answered correctly. c) AC HOLD functions d) AC RECALL calls e) AC conference f) AC position busy g) AC busy verification of trks & lines h) AC camp-on i) AC to AC from call forwarded lines j) AC operational measurements k) AC display			

IBN/MDC/Equal Access non-critical tests (NTX100 IBN/MDC-Basic/NTX186 Equal Access End Office)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Using a 500/2500 set make a DP call from a LCM to an outgoing ATC trunk on DTC dialing 9-10XXX-7 digits.			
2	Repeat step 1 dialling 9-10XXX-international.			
3	Repeat step 1 dialling 9-9501XXX.			
4	Repeat step 1 from a LM dialing 9-10XXX-7 digits.			
5	Repeat step 1 from a LM dialling 9-10XXX-0-10 digits			
6	Repeat step 1 from a LM dialling 9-9501XXX.			
7	Repeat step 1 from a RLM dialling 9-10XXX-10 digits.			
8	Repeat step 1 from a RLM dialling 9-10XXX-01-internat'l.			
9	Repeat step 1 from a RLM dialling 9-9501XXX.			

IBN/MDC/Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
10	From an ATT console on a LCM place a call to an outgoing trunk on DTC dialling 9-10XXX-7 digits.			
11	Repeat step 10 dialing 9-10XXX-10 digits.			
12	Repeat step 10 dialing 9-10XXX-international.			
13	Repeat step 10 dialing 9-10XXX-0-7 digits.			
14	Repeat step 10 dialing 9-10XXX-0-10 digits.			
15	Repeat step 10 dialing 9-10XXX-01-international.			
16	Repeat step 10 dialing 9 - 9501XXX.			
17	Place an incoming DTC call to a LM station.			
18	Place an incoming DTC call to a LM ATT console.			

IBN/MDC/Equal Access non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
19	Place an incoming DTC call to a RLM station.			
20	Place an incoming TM8 call to a LCM station.			
21	Place an incoming DCM call to a LCM station.			
22	Place an incoming DTC call to a LCM station.			
23	Place an incoming DTC call to a LCM P-Phone.			
24	Place an incoming DTC call to a LCM ATT console.			

P-PHONE non-critical test
(NTX089 Enhanced Coin Services)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Complete IBN/MDC non-critical feature tests as applicable			
2	Verify following P-Phone features still work: a) call transfer & 3WC b) call fowarding c) call pickup d) call-waiting e) speed calling f) automatic dial g) ring again			
3	Verify calls to and from a MADN group terminate correctly.			

DMS-TOPS non-critical tests (NTX030 TOPS Call Processing Features)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	From the FM TTY, key'P' and verify a position status summary is recv'd			

DMS-250 non-critical test

TEST NO	TEST DESCRIPTION	FROM LINE TYPE OR CLLI	TO CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify ATT function for auto, manual test setup, results (TL6N, T105, ATMS)			
2	Verify NWM PRE-RTE operational, and other controls REQ			
3	(USTS only) service analysis feature being operational			
4	Verify SYNCLK links SWACT successfully Note "RE-SYNC" time			
5	Verify LTC/DTC warm SWACT ability (no call interrupt)			
6	Verify KT pegging resolve problem CCT			
7	*** TOPS REQMT *** POS status summary, Verify OM pegging for 'TOPS', 'OFZ'			

DMS-MTX non-critical test

TEST NO	TEST DESCRIPTION	FROM: TRUNK TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify ATT function for auto, manual test setup, results			
2	Verify pool link "SWBCK" to assigned dedicated CSC link (non-pooled config)			
3	Verify CSC "XPM" SWACT execution. (no call interrupt)			
4	Verify SYNCLK links SWACT successfully Note "RE-SYNC" time			
5	Verify KT pegging resolve problem CCT			

DMS-100 International non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify flash ignore			
2	1FR OGT MF on TM CALL			
3	1FR OGT DP on TM CALL			
4	1FR OGT MF on DCM CALL			
5	1FR OGT DP on DCM CALL			
6	INC MF to 1FR DGT CLI idle call			
7	INC MF to 1FR DGT CLI busy call			
8	INC MF to line on operator intercept call			
9	INC to SYNC/ non-sync test line call			
10	INC to open CKT test line call			
11	INC to short CKT test line call			
12	INC to MW test line call			

DMS-100 International non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
13	INC to balance test line call			
14	INC to loop around PORT1 & 2 call			
15	Coin call PS/PD (CR)			
16	Coin call - vacant code ANN			
17	Coin call - DACS			
18	Coin call REPAIR DESK			
19	Coin call - intercept			
20	Coin call - OGT with answer			
21	Coin call _ OGT without answer (CR)			
22	Verify service analysis basic commands			
23	Verify LOGUTIL routing and reporting			

DMS-100 International non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
24	MAP tests - PM level. For each PM type below equipped, do the following tests: * * * * * * * * WARNING: With TELCO approval only * * * * * * * * BSY - TEST - REMOVE controller card (OX70 for TM, MTM & OAU; 2X38 for DCM 2X27 for LM & RLM) - test should fail - replace controller card - RELOAD - TEST - RTS Do above on TM2 0, TM4 0, TM8 0, MTM 0 OAU 0, DCM 0, LM 0, RLM 0			
25	Map tests - NET level Select a network pair and plane : perform BSY-TEST -RTS			
26	Map tests - LTP level post a line: DIAGN-BSY-RTS			
27	Map tests - TTP level post a trunk : Perform BSY-RTS -TEST (no parms)			

DMS-200 International non-critical tests

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
1	Verify incoming intertoll to: 101 test line			
2	Verify service analysis basic commands			
3	Verify network management basic commands			
4	MAP tests - PM level. For each PM type below equipped, do the following tests: * * * * * * * * WARNING: With TELCO approval only * * * * * * * * BSY - TEST - REMOVE controller card (OX70 for TM, MTM & OAU; 2X38 for DCM) - test should fail - replace controller card - RELOAD - TEST - RTS Do above on TM2 0, TM4 0, TM8 0, MTM 0 OAU 0, DCM 0			

DMS-200 International non-critical tests (continued)

TEST NO	TEST DESCRIPTION	FROM: LINE TYPE OR CLLI	TO: CALL TYPE DIGITS DIALED	TEST RESULT /REMARKS
5	Map tests - net level Select a network pair and plane : Perform BSY-test -RTS.			
6	Map tests - TTP level Post a TRK:perform FORM BSY-RTS-TEST (no parms)			

Appendix E
Glossary

Abort

Termination of a BCS application when an unrecoverable error or malfunction occurs, or when directed by the operating company.

Active BCS

Software release designation for a previous software release once a new production software release becomes available. At any given time, the BCS stream includes 1 production, and 5 active levels. The remaining levels are retired.

Application

Installation of the new software into the DMS switch. A software application may be performed by an NTI software application engineer or telephone company personnel. An "application" may also be called an "insertion" or an "upgrade."

AutoApply

Automated series of programs for upgrades to BCS 25 through 28 which determine the routines needed for an office upgrade, and runs them with limited engineer input and intervention. Used with NTI- or telco-administered upgrades.

AutoImage

Feature which takes the office image automatically without user intervention. It stops journal file and then restarts it after the image is taken.

Automail

Automated electronic mailing system for core/regional information exchange regarding software orders.

Batch Change Supplement (BCS)

Software load or release which consists of base level software and a collection of feature packages. A new BCS is released two or three times per year.

BCSUPDATE

DMS-resident program in BCS 29 and higher that applies the new datafilled software load into the switch during the One Night Process (ONP) software delivery and the Hybrid process software delivery. If the "From BCS" is BCS 28 or below, BCSUPDATE must be loaded into the switch.

Bulletin

See Software Delivery Bulletin System.

CHECKTAB

Program which identifies errors and inconsistent data in selected tables. These problems should be corrected before the software delivery. CHECKTAB is more powerful than TABCHK.

Controlled introduction

Status designation for new software feature packages that are not yet generally available. These packages require approval from NTI Marketing, New Product Introduction, for inclusion in a software order.

Conventional software upgrade

Software upgrade to BCS 28 or lower which transfers data through dump and restore, and installs the new load using the Manual or AutoApply method. It requires a data freeze period.

Core

Centralized Northern Telecom INS organizations located in the Research Triangle Park area of North Carolina. For software delivery, the term refers to the centralized RTP organizations which perform software delivery functions in all regions.

Custom calling features

Features that can be altered by residential and business subscribers, such as speed calling and call forwarding.

Customer

DMS switch owner such as a telephone company or operating long distance carrier. Should not be confused with residential or business telephone subscribers.

Customer input

Specific information that is needed from the customer (telephone company) before provisioning and production of new software can begin. Customer specific information for a new software load is recorded on the CI (customer input) document.

Data Exception Report (DER)

A delta is run after the dump and restore process in the conventional and hybrid software delivery methods. The DER resulting from the delta indicates any data changes from the old to the new loads.

Dump and restore

Process of dumping all office data from the old BCS load and restoring it into the new BCS load. This applies only to the conventional and hybrid software delivery processes.

Fail

Condition of a software upgrade in which the customer or any of its subscribers experience any type of service degradation as a result of the software delivery.

FAST (First Application System Test)

Northern Telecom facility for testing new software loads. FAST I is in Canada; FAST II is in the Research Triangle Park area.

Frozen image

"Snapshot" image of the switch when the data is frozen, allowing no service orders. The frozen image tape is sent to NTI where the data is dumped from the old load, and restored to the new load. The frozen image is required only for the conventional and hybrid software delivery processes.

Gating hardware

Hardware required for a new software load because of a specific feature or the entire BCS release.

General availability

Feature packages that are available for order by any customer.

Hardware extensions

Requests for upgrades to existing hardware. Hardware extensions may also have dash-S suborders.

Hybrid software upgrade

Software delivery option for larger offices beginning with BCS 29 which moves office data through the conventional dump and restore procedure, and applies the load using BCSUPDATE resident software tools.

Image tape

Magnetic tape containing the datafilled software load which is produced by the telco and sent to NTI for testing or dump and restore. A system image tape is not necessarily a frozen image.

Inform list

List of feature packages and patches currently present in the office. The inform list is obtained when NT dials into the customer's switch and requests it.

Initial order

Customer order for a new DMS or network product. The initial order schedule establishes the common base for all other order types for that job, including information that identifies the customer, the location, product and other data pertinent to the order.

Insertion

Installation of new software into a DMS switch. The terms "upgrade," "insertion," and "application" are synonymous.

In-sync

See "Sync"

JFDB (Job Features Data Base)

NTI data base that stores office- and job-related information. It is used during software production to generate a list of feature packages to include in the new software load.

JFFREEZE

Feature activated prior to dump and restore that assists in making the image tape and preparing the journal file.

Job book

Internal NTI tracking notebook that follows a software job from load build through the software delivery. Each group inserts relevant documentation that can be used by later groups in the process.

Journal file (JF)

Collection of stored service orders made during the office data freeze period. The journal files are rotated daily and applied during the application.

Load build

Series of processes that merge DMS base level software with ordered feature packages into a customized undatafilled software load. This term also refers to the group that performs these procedures.

Loadmate

Process of loading the new software load into the inactive side of the switch to begin the software delivery.

Manual apply process

Series of programs requiring much engineer input and intervention to apply a software load through BCS 24.

MemCalc

Software tool which calculates program and data store requirements for a new software load based on the existing switch configuration.

Monitor

Software delivery phase which includes testing and verification of the DMS switch performance on the new software load. The monitor phase begins when the insertion is complete, and continues until 12:00 noon (site time) on the day the SWACT (switch of activity) occurred. This term also refers to the NTI engineer who observes the logs and switch performance during the monitor phase.

MOVEBCS

DMS-resident program in BCS 29 and higher that moves the data from the old software load to the new load during the One Night Process (ONP) software delivery. If the "From BCS" is BCS 28 or below, MOVEBCS must be loaded into the switch.

NSR (Network Software Release)

Software loads for the Dynamic Network Controller family of products (DNC-500, DNC-100, etc.)

NT-Access

Computerized on-line questionnaire used by the telco to input provisioning information for an order.

One Night Process (ONP)

Software delivery option for smaller offices beginning with BCS 29 which moves data (using MOVEBCS) and applies the new load (using BCSUPDATE) in one night, eliminating the need for freezing office data.

PARMMail

Electronic transmission of software parameters requested by the telco for the new software load. The PARMMail is sent to the regional software system engineer (SSE) who then verifies and forwards it to core for setting the parms.

Parms (Parameters)

Software variables which are identified in four software tables in the DMS switch: OFCENG (office engineering), OFCSTD (office standards), OFCOPT (office options), OFCVAR (office variables). Parameters are used by the DMS software during switch operation to define the length of timing intervals, routing options, and other elements in the switch.

Pass, by process

Any BCS application that takes place with no unplanned activities, e.g., software parameters changes, patches needed, translation changes, defective hardware.

Pass, with process intervention

Any BCS application that requires some unplanned activities to avoid service-affecting issues.

Patch

Rewrite to an existing software load which changes only a small portion of data or program.

Polling

Process of dialing into the customer switch prior to the software upgrade to obtain memory and other information on the existing system.

Pre-application procedure

Series of pre-application office checks to ensure that the office is ready for the software upgrade. The NTI BCS Pre-application engineer performs these procedures with telephone company site personnel on the DMS switch.

Production BCS

Software release designation used to indicate the most recent software release.

Regions

NTI organizations located in the major regional areas of the United States that perform various customer interface functions in the software delivery process.

Reschedule

Condition in which a scheduled software upgrade is cancelled and re-scheduled due to an unexpected problem or issue that would impact the success of the software delivery. This condition occurs after the production flag is set in loadbuild, but before sync is dropped for the application.

Retired BCS

Designation for a software release which has been followed by six newer software releases (five active and one production) and is, therefore, no longer supported by NTI.

RTP dump and restore

Process in which the telco sends a frozen image to NTI, and captures service orders through journal file. In an NTI captive lab, the data is dumped from the image and restored to the new load in a captive lab one week before the application.

Service orders

Process of changing customer data in the switch. For conventional and hybrid software deliveries, service orders are not allowed during the data freeze period. Any required service orders are collected in journal files, which are then applied during the application.

Soak rule

Policy requiring all gating hardware to be installed 12 days before the scheduled insertion date to ensure good working order.

Site dump and restore

Process in which the site switch is used for the dump and restore through dial-up ports one day before the application. Service orders are suspended.

Split site dump and restore

Process similar to the Site Dump and Restore except that service order activity is provided during the time between the dump and restore procedures.

Software delivery

Process of updating software in existing in-service telephone office. The term also refers to installing software loads in new DMS offices.

Software Delivery Bulletin System

Computerized menu-driven bulletin system on C-SCAN that provides temporary "workaround" procedures for conditions that have been identified to be changed. Bulletins contain information that has not yet been released in NTI documentation.

Software extensions

Requests for software-only upgrades to existing DMS switches, Network Products or remotes.

SWACT (SWitch of ACTivity)

Switching of all switch activities and operations from the old software load to the new load. The inactive side with the new software becomes the active side.

SWAP

Software delivery process for DMS 250, DMS-MTX, SL-100, and all Canadian and international DMS 100 Family switches.

Sync (synchronization)

Process of having active and inactive sides running on the same software load, with the inactive side serving as backup to the active side (duplex mode). When the switch is out-of-sync (simplex mode), the inactive side is being used for another purpose, such as upgrading to a new software load, and cannot back up the active side.

TABCHK

Program which identifies basic inconsistencies in tables, including false tops and bottoms. TABCHK is not as powerful as CHECKTAB, but it can be used on all tables.

Telco

Telephone company, Northern Telecom's customer.

Undatafilled image

DMS base level software combined with all feature packages ordered by the telephone company, but without office data assignments (line, trunk assignments, routing options, etc.) An undatafilled system image tape is produced during the load build process.

Upgrade

Installation of new software into a DMS switch. The terms "upgrade," "insertion," and "application" are synonymous.

Verification Office (VO)

Telco offices which test new software releases before they become generally available.

SuperNode conversion procedures
NTP 297-1001-302

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